

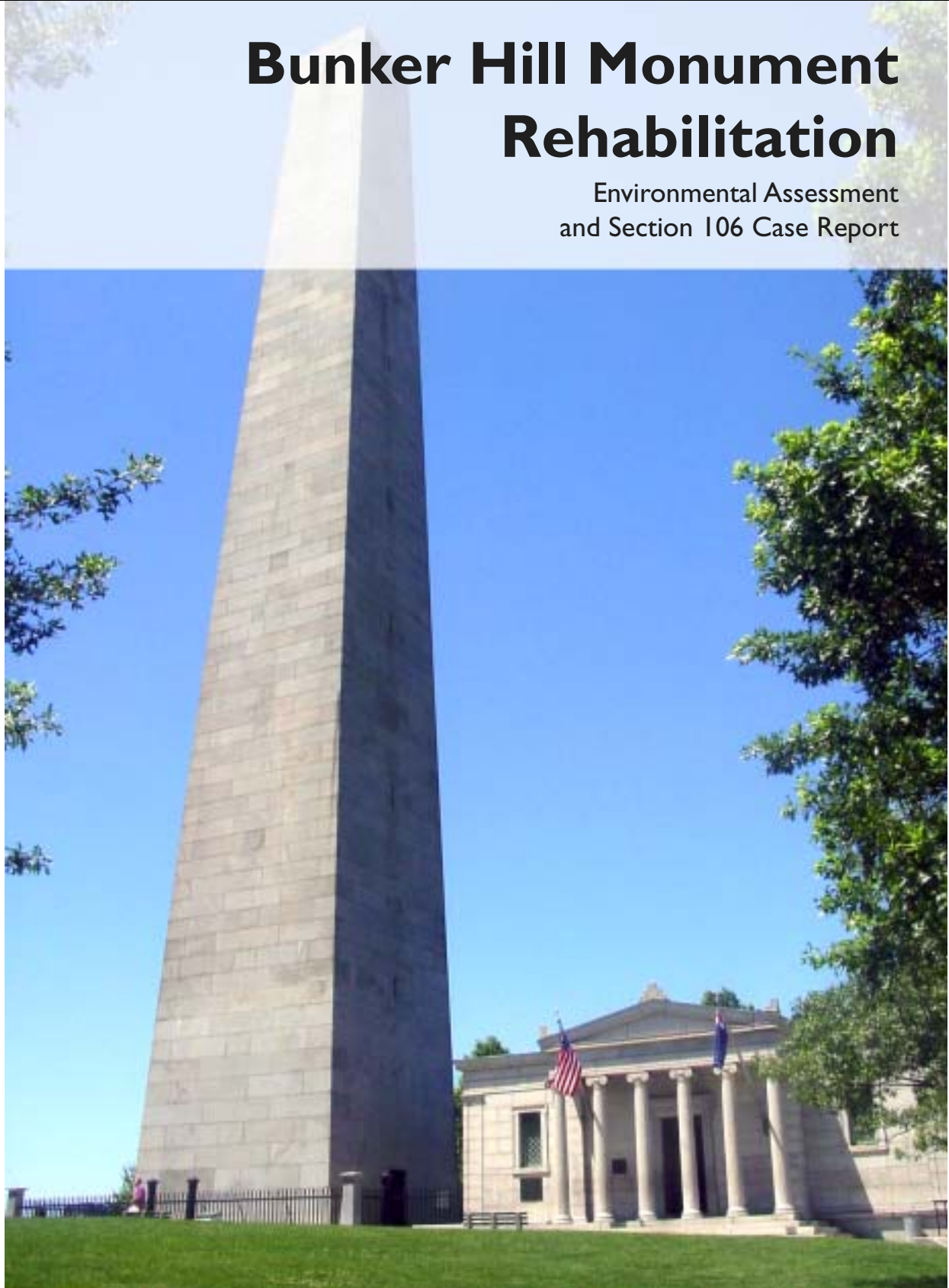
National Park Service
U.S. Department of the Interior

Boston National Historical Park
Massachusetts



Bunker Hill Monument Rehabilitation

Environmental Assessment
and Section 106 Case Report



**U.S. Department of the Interior
National Park Service**

**Environmental Assessment
Bunker Hill Monument Park Rehabilitation
And Section 106 Case Report**

**Boston National Historical Park
Charlestown, Massachusetts**

Proposed Action:

The National Park Service (NPS) proposes to rehabilitate the Bunker Hill Monument in Boston National Historical Park. As proposed, the Monument would be rehabilitated, including repointing and improved ventilation. Visitor facility modifications would be made to the Lodge and Museum to improve interpretive services, and access to the structures and grounds would be improved and utilities would be upgraded to accommodate the current use. This document assesses the impacts related to the proposed preferred rehabilitation improvements and alternatives to the preferred design. The preferred alternative would result in minor impacts to visitor experience, park operations, and infrastructure.

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Note to Reviewers and Respondents:

If you wish to comment on the Environmental Assessment, you may mail comments by January 31, 2003 to the name and address below. Please note that names and addresses of people who comment become part of the public record. If you wish for us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations, businesses, and individuals identifying themselves as representatives or officials of organizations or businesses available for public inspection in their entirety.

Terry Savage, Superintendent
Boston National Historical Park
Charlestown Navy Yard
Boston, Massachusetts 02129-4543

Comments submitted via electronic mail may be addressed to ruth_raphael@nps.gov .

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1 Introduction: Purpose & Need

1.1 Introduction

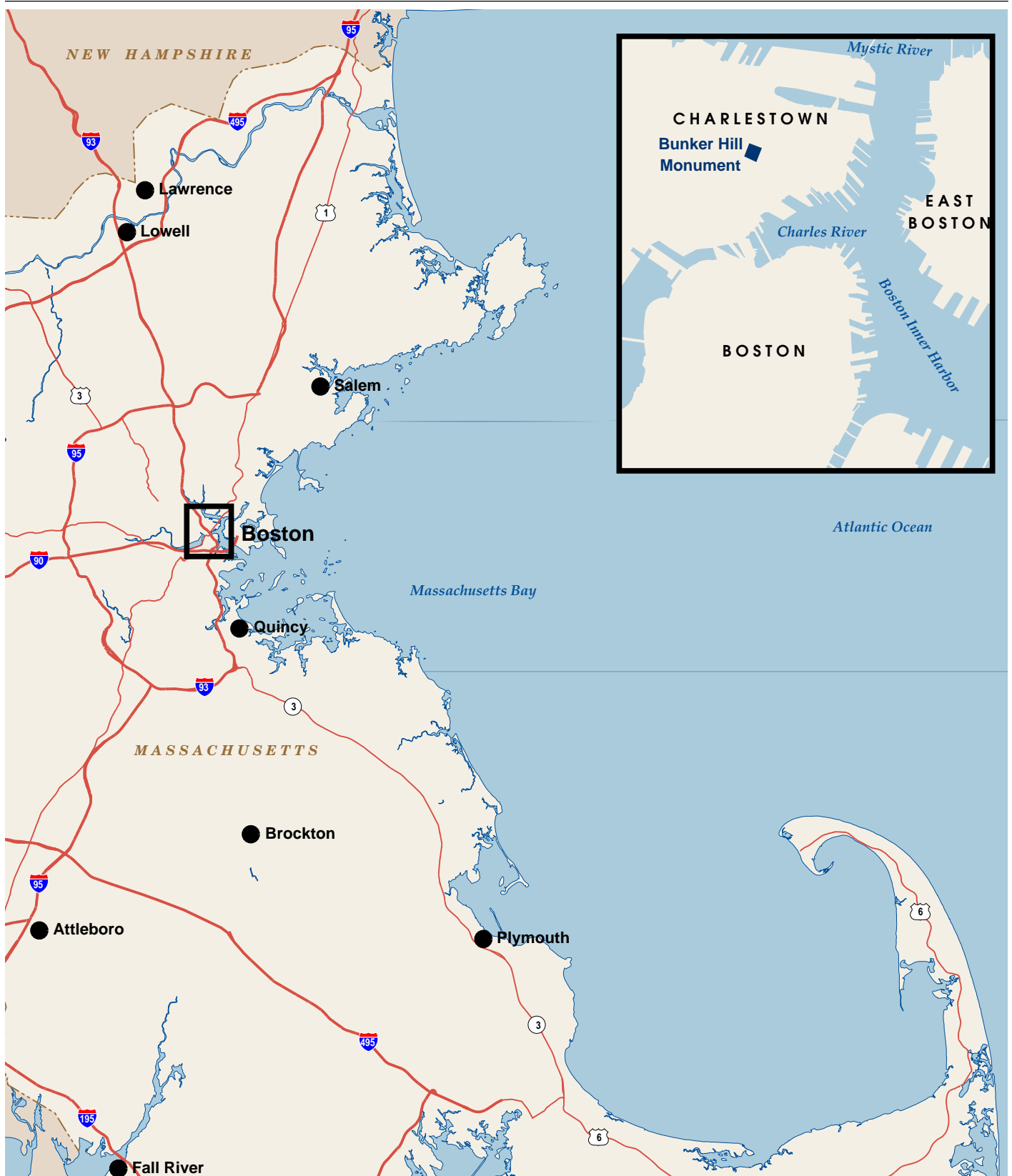
The National Park Service (NPS) is considering rehabilitating the Bunker Hill Monument (BHM), adjacent Lodge, and neighboring Museum at Boston National Historical Park to preserve the resources from weather and continuous use impacts, improve the interpretive exhibits for visitors, provide handicapped accessibility, and upgrade utilities. The actions described in this environmental assessment (EA) would expand and enhance the interpretive services to better tell the story of the Battle of Bunker Hill and its continuing commemoration. The project would also correct drainage problems with both the buildings and the grounds, as well as improve the infrastructure. Upgrading the utilities would also improve park operations and the visitor experience.

This EA analyzes the impacts of the preferred alternative and other alternatives on the environment. It has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, regulations of the Council on Environmental Quality (40 CFR 1508.9), and *NPS Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making*.

1.2 Project Background

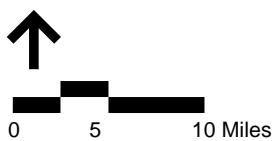
1.2.1 History and Significance of the Park

The Bunker Hill Monument site is located in Boston, Massachusetts, overlooking Boston Harbor. Bunker Hill Monument and grounds are situated within the residential neighborhood of Charlestown, with predominately 19th century residences around the site (Figures 1 and 2). As part of Boston National Historical Park, BHM is one of eight sites in the downtown and surrounding areas of Boston that depict the role of Boston and the early colonists in the American Revolution and the growth of the nation. It is also the northernmost site along the Freedom Trail, a 2.5-mile marked national recreation trail that provides a walking tour of 16 historic sites in downtown Boston and Charlestown and guides visitors on a “pathway through history”(NPS 1995 and 1996). Figure 3 shows the location and relationship to the Freedom Trail.



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Figure 1
Vicinity Map



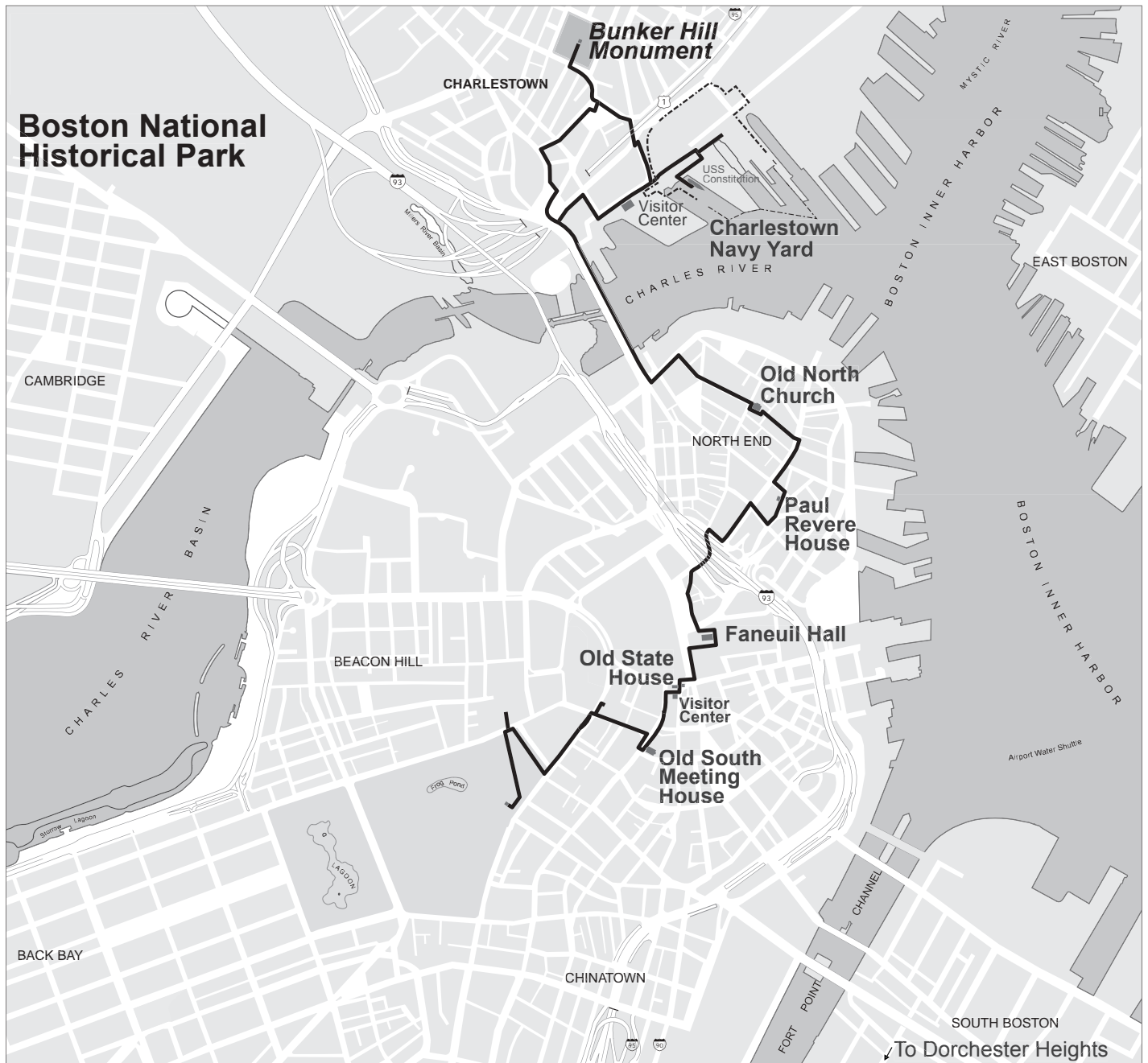


- 1 Bunker Hill Monument
- 2 Lodge
- 3 Museum

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Figure 2
Bunker Hill Monument Site

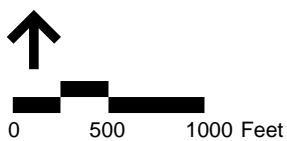




— Freedom Trail

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Figure 3
Boston National Historical Park



The Battle of Bunker Hill, fought on June 17, 1775, was the first major battle of the Revolutionary War and had a profound impact on the course of the war. Ordered to build a defense on Bunker Hill, Colonel William Prescott of the American militia, instead chose nearby Breed's Hill because it was lower and closer to the harbor for the fort. Although the colonists lost the battle, the tone of the war was set with the tenacity and vigor with which they defended the hill and the battle retained the name of Bunker Hill.

The Monument was built between 1825 and 1842 to commemorate the site of the decisive battle. A wooden lodge was constructed adjacent to the Monument to provide an area for contemplation of the events that had occurred on the grounds surrounding the structures. In 1902, it was replaced by the existing granite lodge. The Monument, Lodge, and surrounding grounds were designated as a National Historic Landmark by the Secretary of the Interior in January 1961 and thus were automatically placed on the National Register of Historic Places upon the Registry's creation in 1966. In 1974 Congress established Boston National Historical Park, which included Bunker Hill and the Charlestown Navy Yard (CNY), a 200-year-old historic shipyard along the Harbor, located about one-half mile away. In addition to the BHM and the CNY, Boston National Historical Park currently consists of six other sites. In 1987, Monument Square and the surrounding residences were also listed on the National Register as the Monument Square Historic District (Figure 14, page 53).

1.2.2 Bunker Hill Monument Site

The Bunker Hill Monument site has four primary facility components (Figure 4). These are (1) the Monument, (2) the Lodge, (3) a City of Boston-owned Museum building across the street from the Monument, and (4) the 4-acre grounds that provide an area of reflection and interpretation, as intended at the time of the Monument's construction.

Most visitors to the site arrive on foot either via the Freedom Trail or from the CNY. Limited parking is provided around Monument Square. Most parking in the vicinity of the site is reserved for neighborhood residents through a resident parking permit program. Additional parking to serve the site and other attractions within the Boston National Historical Park is provided at the Charlestown Navy Yard.

The Monument

The Monument structure is a narrow 221-foot granite obelisk (Figure 5) that is one of the most characteristic elements of the Charlestown skyline, visible from many locations within downtown Boston and the Boston Harbor. From a small entryway that displays a model of the site's original commemorative monument, visitors may climb to the top of the Monument via 294 spiral steps. Once at the top, four sets of windows provide a panoramic view of Boston, Charlestown and nearby communities. In order to prevent objects from being thrown out, these windows have been sealed shut.

The Lodge

The Bunker Hill Lodge is a single-story granite building completed in 1902 to replace an earlier wooden lodge designed and intended to provide space for commemoration of the Battle at Bunker Hill (Figure 5). The main level accommodates historic paintings and sculptures, interpretive exhibits, and visitor services

including a bookstore and public restrooms, although these are not handicapped accessible. The basement also contains public restrooms as well as support spaces that are not open to the public.

The Museum

The existing Bunker Hill Museum facility is housed in the former Charlestown Branch Public Library building at 43 Monument Square, across the street from the park (Figure 6). In 1970, the library branch was closed. The building was converted into the Bunker Hill Museum in 1975. The building remains in the ownership of the City of Boston, yet is managed and operated on a volunteer basis by the Charlestown Historical Society. Located on the south side of Monument Square and facing the Monument, this building enjoys a favorable position along the Freedom Trail.

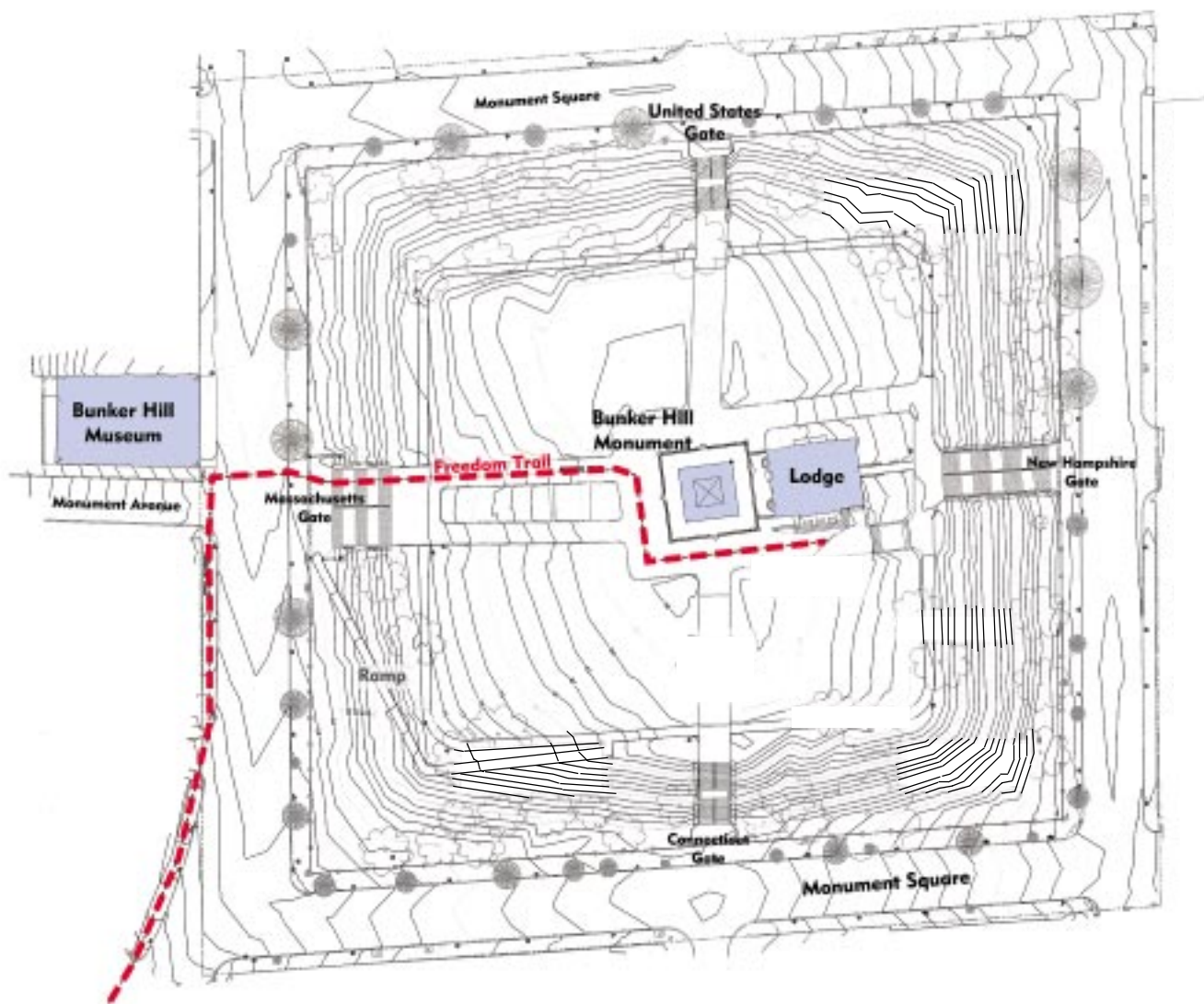
The Grounds

The Monument and adjacent Lodge are situated in the center of Monument Square atop a granite platform surrounded by an iron fence (Figure 2). Visitors enter the Monument through the Lodge (Figure 7). A paved area used as a gathering and resting place surrounds the platform and offers opportunities for interpretive sessions. Approximately nine benches of various styles are situated in the paved area. To the south of the Monument stands a statue of Colonel Prescott from which a small lawn area welcomes the visitor. An open park like grassy area extends out on all sides of the plaza and slopes down to the perimeter fence.

The site can be accessed from the surrounding streets via four areas: the Massachusetts Gate, the New Hampshire Gate, the Connecticut Gate, and the United States Gate. Each of these access points leads to a set of granite stairs which in turn lead to the Lodge and Monument. Massachusetts Gate is on the south side of the site, facing the front of the Monument and the Prescott statue. It is the widest, steepest, and grandest of the four staircases, and is the primary entrance. New Hampshire Gate is nearly as wide as Massachusetts Gate, but faces the back of the Monument and Lodge. The other two gates, Connecticut and United States, are located on the east and west side of the site, respectively. A concrete ramp built in the 1970s originates from the Massachusetts Gate entrance and provides access to the upper plaza; however, the railing and grade of the ramp do not meet Americans with Disabilities Act (ADA) standards. There is a vehicular gate at the corner between the Massachusetts and the United States Gate that is kept closed except for use by maintenance or emergency vehicles.



Access ramp from street level to Monument and Lodge.



 Facility components

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Figure 4
Bunker Hill Monument Rehabilitation
Existing Conditions





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Figure 5
Bunker Hill Monument Rehabilitation
Monument and Lodge





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Figure 6
Bunker Hill Monument Rehabilitation
Museum





Access to Lodge and Monument



Access ramp from Lodge leading to the Monument



Handicap access to Lodge and Monument



Monument Access from Lodge

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Figure 7
Bunker Hill Monument Rehabilitation
Existing Conditions
Access to the Monument and Lodge



Interpretive Services

Interpretive services are provided at the Lodge, with limited indoor space for the public to view interpretive exhibits and historical artifacts relevant to the Battle. These include two glass-enclosed dioramas with figurines depicting the placement of soldiers and militia during the conflict. Also displayed are a variety of biographies of the key individuals of the battle. On the grounds, there is only one outdoor (wayside) exhibit. Across from the Monument, the Bunker Hill Museum includes limited exhibits related to the Battle and Monument. An interpretive audio-visual program of the battle, *The Whites of Their Eyes*, is displayed at an auditorium (formerly the Bunker Hill Pavilion) adjacent to the Charlestown Navy Yard.



Wayside display at the Massachusetts Gate entrance showing the relationship of the site to the Freedom Trail.

1.2.3 Plans Outlining Management Goals

Boston National Historical Park General Management Plan

The mission of the Boston National Historical Park is to preserve, protect, and interpret for the benefit and inspiration of all people, the historic structures and properties of outstanding national significance located in Boston and associated with the American Revolution and the founding and growth of the United States.

The *1980 General Management Plan* (GMP) articulates a series of specific management goals for the park focused in three primary areas: park management and administration, resource management, interpretation and visitor services. Of particular relevance to Bunker Hill and this EA are:

- Maintain and improve the cooperative relationship with the surrounding neighborhood and community. Preserve artifacts directly related to the Monument and its interpretation in cooperation with the museum.
- Manage resources through the preservation of buildings and grounds, including the obelisk, Lodge, pathways, trees, lawns, and fences. In order to do this, these facilities need to be regularly serviced and access needs to be improved where possible.
- Provide interpretive materials and visitor facilities that would develop and convey the following themes:
 - The history of the specific events and people of the site, including the history of the Monument and its construction, as well as the radial effects of its commemorative nature.
 - The historic period, focusing on the Battle of Bunker Hill and its development, outcome, and importance, as well as the actual events of the battle.
 - The site as it exemplifies the great ideas of all time. The Battle of Bunker Hill was the beginning of the development of a nation, as unity of philosophical and emotional ideologies solidified.

The GMP also provides for the upgrading of facilities in order to meet accessibility requirements. Visitor, management and transportation facilities will be made as accessible as practicable to persons with visual, hearing, mobility, and mental impairment. Accessibility will be consistent with preserving park resources and providing a high-quality visitor experience.

Cultural Landscape Report For Bunker Hill Monument

A *Cultural Landscape Report For Bunker Hill Monument* (CLR) was prepared in 2000 by the NPS. The purpose of the CLR was to provide detailed analysis of the physical history and evolution of the site, to evaluate the significance and integrity of the site's landscape characteristics, and to present guidelines for the park for future rehabilitation of the site while preserving historical integrity.

The CLR presents a treatment recommendation that suggests the following actions:

- Retain the granite platform, concrete plaza, and iron fence enclosure around the Monument and ensure that compatible materials are used for additional site features;
- Maintain a well graded and uncluttered manicured lawn;
- The asphalt perimeter path should be resurfaced but retained in the location as it exists today, rather than being relocated;
- The iron fountains once present on the site should not be reintroduced to the site;
- Trees added to the site in random plantings be maintained in the short-term, but eventually be replaced with a more orderly configuration more consistent with the 19th century and early 20th century configuration;
- Replace missing trees and remove and replace unhealthy and severely leaning trees that contribute to the double tree line, as necessary. Rejuvenate, replace-in-kind, or replace with appropriate substitute, as required;
- Existing lamps be replaced with lamps that are more compatible with surrounding features;
- Use floodlights to make architectural statement of obelisk;
- Provide lighting for the Prescott statue and the Lodge;
- All new concrete surface treatments, including accessibility ramps, should match the concrete specifications for existing walkways and use granite for curbing and edges;
- Include outdoor exhibits that more effectively convey the site and surrounding landscape's evolution from a battlefield to a commemorative monument in an urban neighborhood.

Other Management Policies and Documents

The *2001 NPS Management Policies* (NPS 2001) report provides policies applicable to the management of the national park system, including policies pertaining to accessibility for persons with disabilities, construction sites and revegetation. Specific elements of these policies considered in this EA include:

- The NPS will provide accessibility consistent with preserving park resources, visitor safety, and providing a high-quality visitor experience. The NPS will design, construct, and operate all buildings and facilities so they are accessible to, and usable by, persons with disabilities to the

greatest extent reasonable. All new and altered buildings will be in conformance with the appropriate design standards.

- Construction sites will be limited to the smallest feasible area. Ground disturbance will be controlled to prevent undue damage to vegetation, soils and archaeological resources, and to minimize air, water, soil and noise pollution.
- To the maximum extent possible, plantings will consist of species that are native to the park or historically appropriate for the period or event. Imported soils must be compatible with existing soils and free of undesired seeds and organisms.

In addition, Director's Order 42, *Accessibility for Visitors with Disabilities*, provides guidance and implementation strategies for achieving the goals of the management policies.

Director's Order 47, *Soundscape Preservation and Noise Management*, also establishes operational policies to protect, maintain, or restore the natural soundscape resource in a condition unimpaired by inappropriate or excessive noise sources. Intrusive sounds may impede the Service's mission to preserve or restore the natural resources of the park, which includes the natural soundscape, and may adversely affect the visitors' experience of both natural and cultural resources.

1.3 Purpose and Need for Action

To significantly enhance interpretation of the events of the Battle of Bunker Hill and its contexts to other important historic structures around Boston, consolidating and improving interpretive services and facilities at the Bunker Hill Monument Site is being proposed. Improving and expanding the exhibits and commemorative facilities would allow visitors a chance to reflect on the circumstances surrounding the battle and the challenges faced by both colonial and British soldiers. Additional museum exhibits and displays throughout the site would connect the events of the site with the Freedom Trail and the historic buildings within the Boston surrounds. Improvements to sidewalks, ventilation, and lighting fixtures would allow the visitor to more comfortably explore the site. Access improvements to buildings and grounds are needed to ensure availability of the site to the greatest extent feasible. In addition to the interpretive services, rehabilitation work is proposed on several structures, including the Monument, Lodge, and associated Museum to preserve and enhance the historic resources at the Bunker Hill Monument Site.

The proposed project is needed to rehabilitate historically significant structures and increase interpretive capacity, to improve the visitor awareness of the significance of the site. When it was initially established, the Monument and battle site represented events that were familiar to the wider public. Over 100,000 people attended the foundation stone laying ceremony in 1825 (CLR). The facts of the battle and their enduring significance, however, are less well known today. The current interpretive facilities inadequately portray the significance of the battle and its impact on the development of a nation. The interpretive materials are disjointed in their approach of the battle and need to be centrally located and expanded upon. Without improving and developing additional interpretive services at the site, the importance of the surrounding area and the Battle of Bunker Hill cannot properly be conveyed.

Visitor services are currently limited at Bunker Hill Monument. Neither the 4-acre site nor the 2,000 square foot granite Lodge building provides sufficient space to tell the dramatic story of the battle. At the present, the Lodge provides a small indoor space for the public to view historical artifacts relevant to the Revolutionary War period and a few interpretive exhibits. At the site, only one outside interpretive exhibit provides a limited explanation on the history of the Battle of Bunker Hill. Facility modifications are necessary to provide appealing displays that more fully relate the importance of this story while maintaining and protecting the integrity of the historic resources at the site. The existing community-operated Bunker Hill Museum also includes only very limited interpretation and operates seasonally on a limited schedule. Exhibits are restricted to a portion of one floor of the three-floor structure. With its limited space, schedule, and funding, the Museum does not adequately tell the story of the Battle of Bunker Hill.

Serving about 200,000 visitors per year, Bunker Hill Monument is a much-used resource, as evidenced by the deteriorated infrastructure in some of the buildings within the site and other impacts to the Monument's facilities that have resulted from years of continual use. During heavy rains, water leaks in through the top portion of the Monument onto the stairs. During the winter, this water can freeze and produce a slick surface. The Monument needs to be repointed (remove and replace the grout and the mortar between the granite slabs) and to be resealed (put a coating over the mortar) to prevent this water penetration, which results in the building being closed frequently, especially in cold weather. For safety concerns and to reduce the occurrences of objects falling from the Monument, the windows at the top have been sealed. This restricts ventilation and can make the building stuffy and hot during the summer. Improving ventilation would help prevent further deterioration and provide fresh air to visitors who have climbed the almost 300 steps. Removing graffiti would improve the overall appearance of the Monument as well.

The Lodge needs to be reprogrammed to more closely align with its original purpose as a contemplative space associated with the Battle. In addition, the structure is in need of repairs to preserve its integrity and the condition of various artifacts. Water infiltrating through the roof and skylights has caused damage to historic fabric and could damage collections that are housed in the Lodge, including several significant paintings.

Cracks in the sidewalks make it difficult to walk around the site. Repairing or replacing the sidewalks would improve visitor access to the facilities and grounds. Utilities are inadequate to meet current needs for drainage, water supply, and electricity. Lighting around the grounds consists of highway-style fixtures that were installed in the 1960s and that are inappropriate in scale and character to the site and cast uneven and insufficient light. New fixtures would better contribute to the historic character of the cultural landscape. The additional lighting would result in more consistent, even lighting along the walkways and at the entrance to the Lodge.



The Museum has experienced structural deterioration through years of use and weathering. Immediately to the west, the building originally abutted a townhouse sharing a brick wall. However, this building was razed in 1935 leaving the wall exposed (Bundschuh 2001). Once exposed, the wall was coated with concrete to protect the porous interior brick from the effects of weather. The coating has since broken down, cracked or broken off, and chipped, letting water into the structure and allowing freeze/thaw cycles to occur. The conditions of the interior of this wall clearly illustrate that water penetration has been ongoing and the effects have been damaging. Hazardous materials such as lead-based paint and asbestos have been found in the building and need to be removed so as not to pose a health threat to visitors (Vanasse Hangen Brustlin, Inc. 2001).

The entrance to the Lodge and the pathway connecting the Lodge with the Monument do not comply with accessibility requirements. Restroom facilities are also not in compliance. The community Museum is also not fully accessible and needs to be updated to allow disabled visitors to enjoy the exhibits.

Because of its location at the top of Breeds Hill, erosion, particularly a problem along the northwestern side of the site, causes continuous issues. The BHM site maintains the lawn in part to retain the urban park environment; however, as a result of numerous users, bare patches, spots, hummocks, and soil erosion are evident throughout the site. Drainage ditches (runnels) on either side of each entry stairway have become functionally disconnected from the overall drainage system, and are physically and visually inconsistent with the pathway system (CLR).

Based on the goals of the park's 1980 GMP, the CLR, and the operations of the park, the purpose of the proposed project is to: (1) preserve and enhance historic resources including the Bunker Hill Monument, Lodge, and grounds at Monument Square; (2) significantly enhance interpretation of the events of the battle, its contexts, and subsequent commemoration through development of a new museum; and (3) improve the quality of visitor experience by rehabilitating facilities and correcting accessibility deficiencies. These goals, however, must be achieved in a cost-efficient manner.

1.4 Planning Issues

The following issues have been identified from previous planning efforts and field reconnaissance at the Bunker Hill Monument site. Issues consider the effect of the alternatives on a physical, biological, social, or economic resource and help determine potential impact topics.

Drainage and Erosion. Poor drainage and erosion have contributed to deterioration of the Monument, Lodge, Museum, and portions of the grounds over the past several years. Adequate measures to correct drainage issues (improving the drainage ditches and catch basins) would improve site conditions and better protect the significant historical resources.

Cultural Resources. The Monument, Lodge, and grounds are unique and significant historic resources commemorative of the Battle of Bunker Hill. The entire site is listed on the National Register of Historic Places. Through continued exposure to the elements and heavy visitor use, the resources are at risk of

further deterioration. Repointing the Monument and repairing the roofs of the Lodge and Museum would help protect these cultural resources. The cultural resources at the site should be preserved in a manner that maintains their historic integrity, including resources within the buildings.

Interpretive Services. The Monument, Lodge, and grounds represent and portray events that occurred at the Battle of Bunker Hill and helped form a nation. The limited interpretive services at the site do not appropriately convey the importance and magnitude of the battle. Exhibits are scattered throughout the site, the Museum, and the Pavilion at the Charlestown Navy Yard, and do not lend themselves to a centralized area that encompasses the full story of the Bunker Hill.

Accessibility. The Monument, Lodge, Museum, and grounds are currently not fully accessible to visitors with disabilities. The proposed action should include pathways that guide and welcome the visitor from the Massachusetts Gate entrance and to and from the Museum on Monument Square. Additional outdoor signs along the footpaths would help visitors interpret the site, especially after hours. These features should be designed to comply with the Architectural Barriers Act (ABA) and ADA standards to the greatest extent feasible. Access to the Monument can conform to these standards, but the Monument itself cannot be made fully accessible without altering the historic structure.

Bus Traffic and Parking. Bus traffic and parking along Monument Square is a concern since many tour and school buses drop off their passengers and wait with the engines idling for visitors to view the site, and there can be excessive noise and air pollution from their exhaust. Also, these large vehicles must navigate the narrow neighborhood streets around Bunker Hill Monument, causing delays or congestion for residents and other visitors. Traffic management techniques need to be evaluated to determine the most appropriate actions during peak visitation periods in order to maintain the surroundings in a more contemplative environment, as originally conceived in the design of the site.

1.5 Impact Topics

The following impact topics were chosen to be evaluated based on the Council on Environmental Quality's NEPA regulations and NPS Director's Order 12, by assessing the issues raised during regulatory and other scoping meetings, and by observing the potentially affected resources at the project site. These include: cultural resources; visitor use and experience; and infrastructure and park operations.

1.6 Impact Topics Considered but Dismissed from Further Analysis

The following topics would not be affected by the proposed action and were eliminated from further evaluation. They are briefly discussed below but will not be analyzed in detail in this document.

1.6.1 Ethnographic Resources

Ethnographic resources are defined by NPS as any “site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (*Director’s Order 28: Cultural Resource Management Guideline*). There are no federally or state recognized tribes associated with the lands of the Boston National Historical Park, therefore it is not anticipated that ethnographic resources would be impacted by this project.

1.6.2 Access and Use of Indian Sacred Sites (Executive Order 13007)

No lands within the project area have been identified as Indian sacred sites.

1.6.3 Indian Trust Resources

The project area is not considered an Indian Trust Resource, and the proposed action does not conflict with American Indian interests.

1.6.4 Floodplains

The project area is not located within areas subject to either a 100-year or 500-year flood or high-hazard coastal areas, and the proposed action would not affect floodplain functions or values.

1.6.5 Prime or Unique Farmland

Prime or unique farmland is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. Although there are sixteen soils that support prime farmland in the Suffolk County area (NRCS 1985), the project area consists of Newport-Urban land complex soils and these are not among the listed types. Additionally, as all work is within previously disturbed areas, there would be no impact to prime or unique farmlands.

1.6.6 Soils and Geology

The soil of Bunker Hill Monument consists of the Newport-Urban land complex soils. These soils are very deep, gently sloping to moderately steep, well-drained soils formed in friable, loamy glacial till overlying a firm substratum, and areas of urban land. They are found on steep hillsides in the Boston Basin (USDA 1985). Impacts to these soils were not considered because there are no actions that would remove large amounts of soil and the soil complexes on the site have already been disturbed. While the underlying geology of the area is predominately granitic, there is no exposed bedrock at the site that would be impacted.

1.6.7 Wild and Scenic Rivers

No federal wild and/or scenic rivers are located within the project area.

1.6.8 Air and Noise Quality

The Clean Air Act of 1963, as amended, and associated NPS policies require the NPS to protect air quality in parks. The site is within a nonattainment area for ozone and carbon monoxide under the Clean Air Act, which means the area is subject to special regulations and restrictions. As part of the City of Boston and an industrial, urban environment, air quality in the vicinity of the site is generally good, except that ozone and carbon monoxide levels sometimes exceed state and federal health standards and these pollutants can be a particular concern in the area.

Although improvements to Bunker Hill Monument would require use of heavy equipment during construction, emissions and dust associated with these activities would be short-term and negligible in a local and regional context.

Use of heavy equipment for grading and repair would occur during the construction period and would result in a temporary increase in noise levels in the area. These levels, however, would return to normal once the project was completed.

1.6.9 Wildlife

The wildlife occurring on the site are those normally found in urban open spaces in Eastern Massachusetts, including resident and migratory species of birds. Other common wildlife in the park includes, raccoons, eastern cottontails, squirrels, skunks, and rodents, as well as some species of insects and other invertebrates.

The actions evaluated in this EA would be undertaken in a limited area of previously disturbed land that has been subject to heavy visitor, residential, and vehicular traffic. Wildlife in the project area would be habituated to these levels of disturbance and human activity and would be affected negligibly, if at all, only during construction activities.

Threatened, Endangered, Proposed, and Candidate Species. According to the U.S. Fish and Wildlife Service, Massachusetts Department of Fisheries and Wildlife, and information in National Park Service documents and files, no species of management concern are known to inhabit the Bunker Hill Monument Site. (Susanna L. von Oettingen, Endangered Species Biologist, New England Field Office June 10, 2002). Therefore, based on the absence of suitable habitat and the absence of documented sightings despite high visitation of the project area by park staff and visitors, no special status species would be affected by the actions proposed in this EA.

1.6.10 Vegetation

There is no natural vegetation on the site, and vegetative communities within Bunker Hill Monument are considered urban park, with lawn and limited tree varieties. There are no unique plant communities or state-listed rare plant species within Bunker Hill Monument.

1.6.11 Wetlands

The Monument and grounds do not have any wetlands associated with them, and therefore the project would not affect this natural resource.

1.6.12 Socioeconomic Resources/Environmental Justice

Work proposed at Bunker Hill Monument would not affect the overall socioeconomic impact of the park on surrounding areas. The surrounding urban community economy is entirely independent of the park although many visitors to Boston visit the Freedom Trail and units of Boston National Historical Park.

Federal agencies must implement actions to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. The project is located within the boundaries of the Bunker Hill Monument in the Boston National Historical Park and would not cause the displacement of any residents, nor would it eliminate jobs outside of the park. The project would not disproportionately affect low income or minority populations.

1.7 Regulatory, Management, & Legislative Considerations

Appendix A contains a complete list of the federal and state regulations and guidelines related to this project, as well as the applicable NPS guidelines and Director's Orders.

2 Alternatives

2.1 Introduction

This EA considers three alternatives for the Bunker Hill Monument Rehabilitation Project:

- Alternative A, No Action
- Alternative B, Rehabilitation and Upgrade to Include Interpretive Center (Preferred Alternative)
- Alternative C, Rehabilitation and Upgrade of Monument Site

The proposed action alternatives (B and C) were developed to meet the purpose and need of the project while minimizing impacts to natural and cultural resources. In general, they involve rehabilitating the Bunker Hill Monument, Lodge, and Museum; enhancing interpretive services; improving visitor accessibility; and upgrading the insufficient utilities.

2.2 Alternative A—No Action Alternative

The No Action Alternative would maintain the Bunker Hill Monument site structures, facilities, and landscaping at levels that meet the minimum requirements necessary for cultural resource protection and the safe and effective operation of the site as a unit of the national park system. No substantive changes would be made to the facilities, and thus existing public health and safety concerns would not be addressed immediately. Maintenance and repairs to the historic resources would be deferred, as would any of the recommendations in the *Cultural Landscape Report* (CLR), including additional site lighting and modifications to the grounds. Improvements to the existing accessibility ramps throughout the site would also be deferred. Both the Monument and the Lodge would continue to deteriorate, as would the community-operated Museum. In addition, the Museum would continue to have limited hours of operation and available space for exhibits and would remain less effective in providing visitor interpretive services.

2.3 Alternative B– Rehabilitation and Upgrade to Include Interpretive Center (Preferred Alternative)

Alternative B, the Preferred Alternative, (Figures 8 through 12) would include rehabilitating the Monument, Lodge, Grounds, and the Museum. The Monument and Lodge would still be the focus of the site, but the Museum would incorporate a more comprehensive display of interpretive materials to better tell the story of the Battle of Bunker Hill and its subsequent commemoration. NPS would provide personnel at the Museum to explain events and provide interpretive services and would work hard in partnership with the Charlestown Historical Society. Improvements to the grounds would increase accessibility and incorporate some of the recommendations of the CLR. Specific site improvements are discussed below.

2.3.1 Bunker Hill Monument and Lodge

Work to the Monument would include repointing (removing and replacing the grout and mortar between the granite) and resealing the mortar joints to eliminate water penetration that freezes on the interior staircase in winter, limiting public use of the Monument. The Monument was repointed approximately 20 years ago when similar water leaking became a problem. Most of the existing exhibits would be removed from the Lodge, and this structure would be rehabilitated and used primarily as a contemplative space, as was originally intended (Figure 8). Additional repairs proposed for the Monument and Lodge include:

- Improve ventilation at the top of the Monument in order to reduce condensation and to provide fresh air to visitors. (The windows at this upper level have been fixed shut to prevent objects from being thrown out of the Monument. A new solution is needed that would prevent falling objects and yet still allow ventilation for visitor safety and comfort without compromising views);
- Clean some of the exterior surface of the Monument to enhance its appearance and to remove existing graffiti;
- Renovate the Bunker Hill Monument site to assure that its components are universally accessible to persons with disabilities in compliance with ADA standards, to the greatest extent feasible, including a new accessible entrance through the south façade of the Lodge and access to the base of the Monument;
- Repair/replace the Lodge skylights;
- Add a new accessible restroom to the Lodge;
- Facilitate the removal of hazardous materials, including lead-based paint within the Lodge;
- Enhance interior lighting for both structures;
- Provide emergency lighting in the Monument and Lodge; and
- Relocate the Lodge interpretive facilities to the new Museum leaving Warren Statue and limited interpretive information.

The proposed actions would address the health, safety and building code compliance, and each of these actions would be completed in compliance with the mitigation commitments derived from NEPA and Section 106 processes.

2.3.2 Monument Grounds

The grounds of the Bunker Hill Monument house the Monument and Lodge and include a 4-acre open space known as “Monument Square,” which is enclosed by an iron fence and framed with numerous shade trees. The grounds are in need of maintenance and upgrading, including repairing or replacing sidewalks and modifying the existing lighting, landscaping, and signage as identified in the CLR.

The following rehabilitation and management measures are proposed as part of this project, consistent with the recommendations of the CLR:

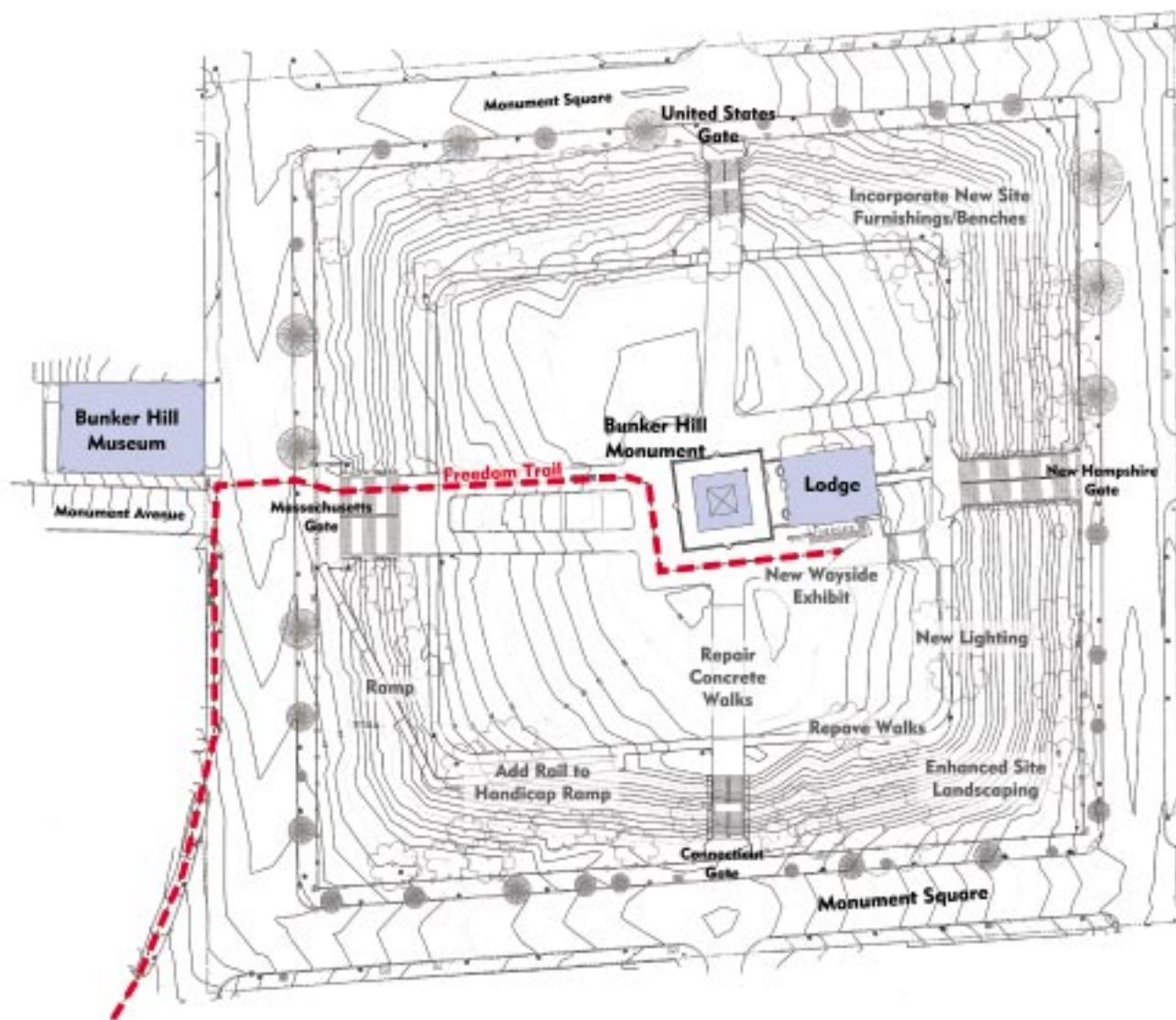
- Retain the granite platform, concrete plaza, and iron fence enclosure around the Monument and ensure that compatible materials are used for additional site features;
- Maintain a well graded and uncluttered manicured lawn;
- Replace missing trees and remove and replace unhealthy and severely leaning trees that contribute to the double tree line, as necessary; rejuvenate, replace-in-kind, or replace with appropriate substitute as required;
- Use floodlights to make obelisk an architectural statement;
- Provide lighting for the Prescott statue and the Lodge;
- Repair and replace sidewalks and walkways;
- Create new curb cuts where needed;
- Improve the site accessibility through improvements to the existing ramp, railing, and curbing;
- Replace existing “cobra head” light fittings with more appropriate fixtures in scale and in character with the site;
- Enhance lighting around the grounds and install landscape lighting;
- Improve signage and add outdoor interpretive exhibits to provide an enhanced experience for visitors; and
- Add or improve benches.

2.3.3 Museum Building/Interpretive Center

The existing Museum operates on a limited schedule and houses exhibits related to the Battle of Bunker Hill and other community themes. Although exhibits are currently restricted to a portion of one floor of the three-floor structure, the proposed work would allow all three stories of the existing structure to be utilized. The National Park Service, with support from the Charlestown Historical Society and the City of Boston, has secured federal funding to rehabilitate the building. The former library building would become the primary interpretive site for telling the story of the Battle of Bunker Hill and its subsequent commemoration (Figures 9 through 12). In addition to exhibits, it is anticipated that the structure would include an audio-visual program, space for community meetings, storage space, and universally accessible restrooms. The new Museum would allow for expanded visitor services, such as a bookstore and concessions. The following rehabilitation and management measures are proposed as part of this project:

- Rehabilitate the library structure and establish a multiple floor interpretive program;
- Improve accessibility for disabled visitors by adding a new elevator and other measures to comply with requirements codified under the ADA;
- Remove hazardous materials within the existing structure, including asbestos and lead-based paint;
- Replace the Museum building mechanical systems with new energy-efficient HVAC equipment, plumbing, water, sewer systems, and fire alarm and suppression systems;
- Add an exit stairway and elevator as part of the interior architectural work;
- Add public restrooms;
- Repair/replace interior finishes; and
- Repair the roof, windows, and masonry work on the exterior.

Appropriate mitigative measures would be taken during construction to minimize impacts to adjacent areas, natural resources, and visitors. These would include erosion and sediment controls, revegetation, and timing construction so as not to interfere with the peak visitor season. Mitigative measures are detailed in the appropriate impact sections in “Chapter 3: Affected Environment & Environmental Consequences.” Alternative B would cost approximately \$3,100,000.

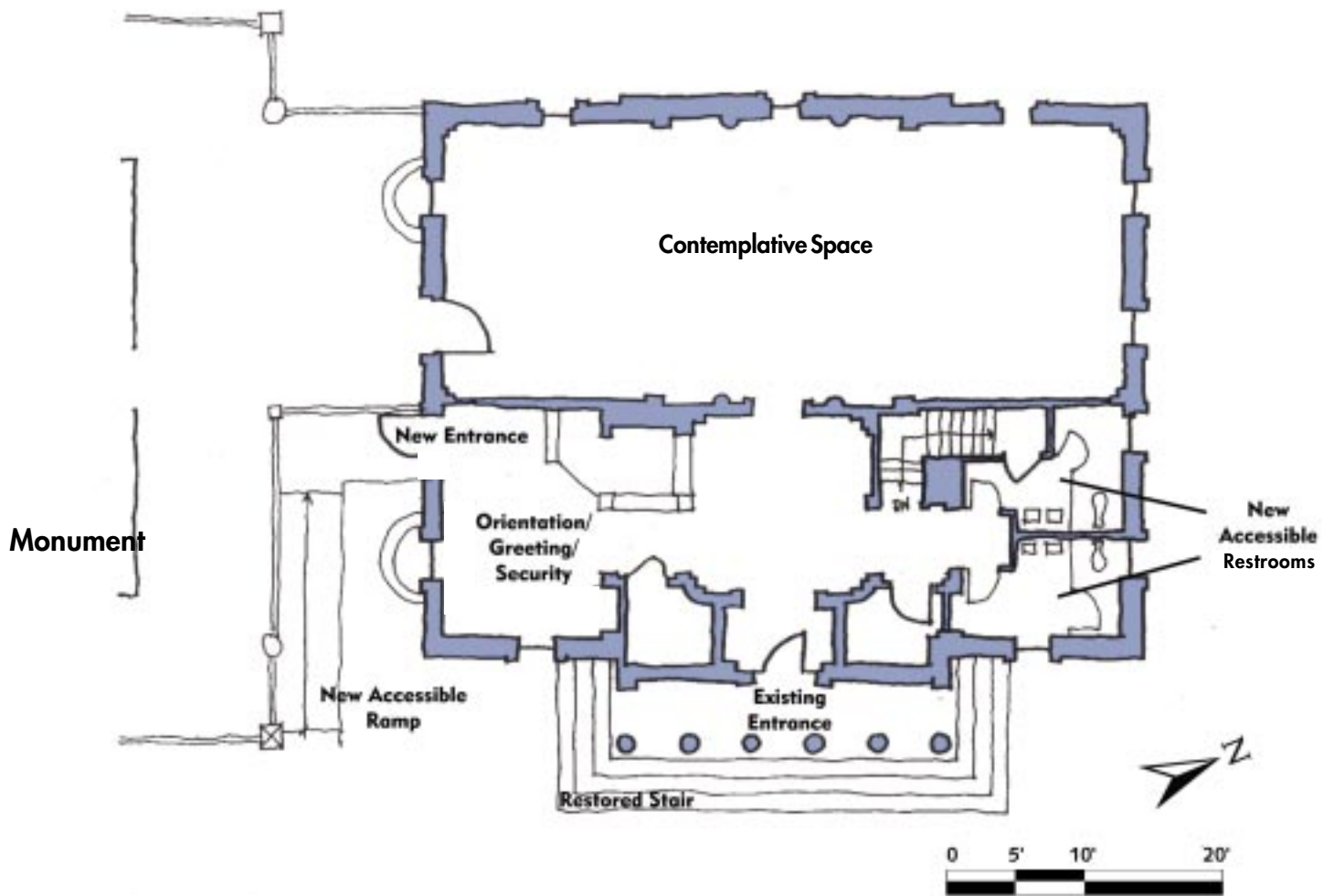


- Bunker Hill Museum**
- New Exhibits
 - Audio Visual Show
 - Bookstore
 - Meeting Space/Community Use
 - Refreshments
 - Storage
 - Restrooms
 - Accessibility Improvements
- Bunker Hill Monument**
- Repairs
 - Repointing
 - Cleaning
- Lodge**
- Reestablish as a Contemplative Space
 - Repair Structure
 - Establish New Accessible Entry and Restrooms
 - Repair

NATIONAL PARK SERVICE

Figure 8
Bunker Hill Monument Rehabilitation
Alternative B

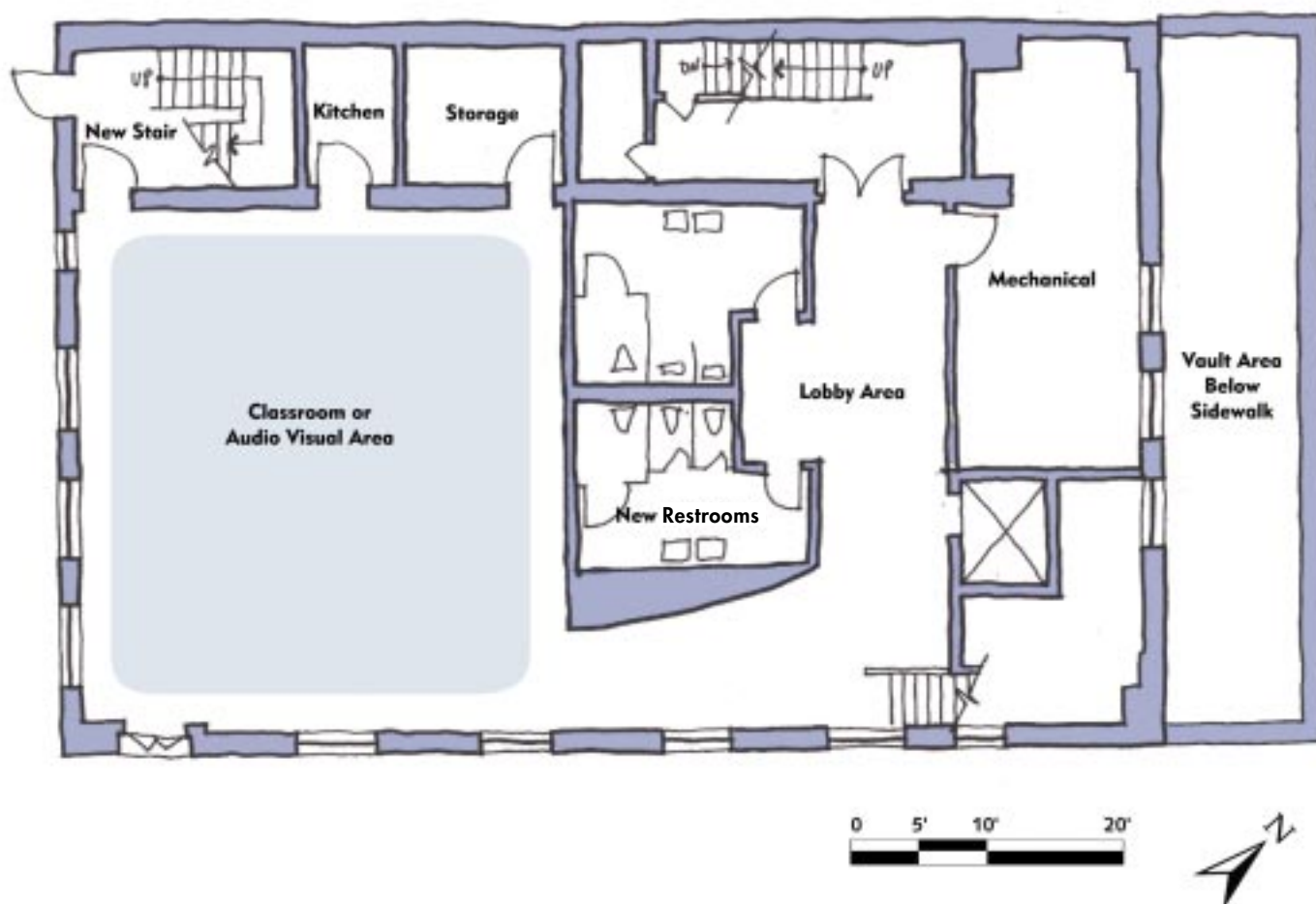




NATIONAL PARK SERVICE

Figure 9
Bunker Hill Monument Rehabilitation
Alternative B
Monument and Lodge

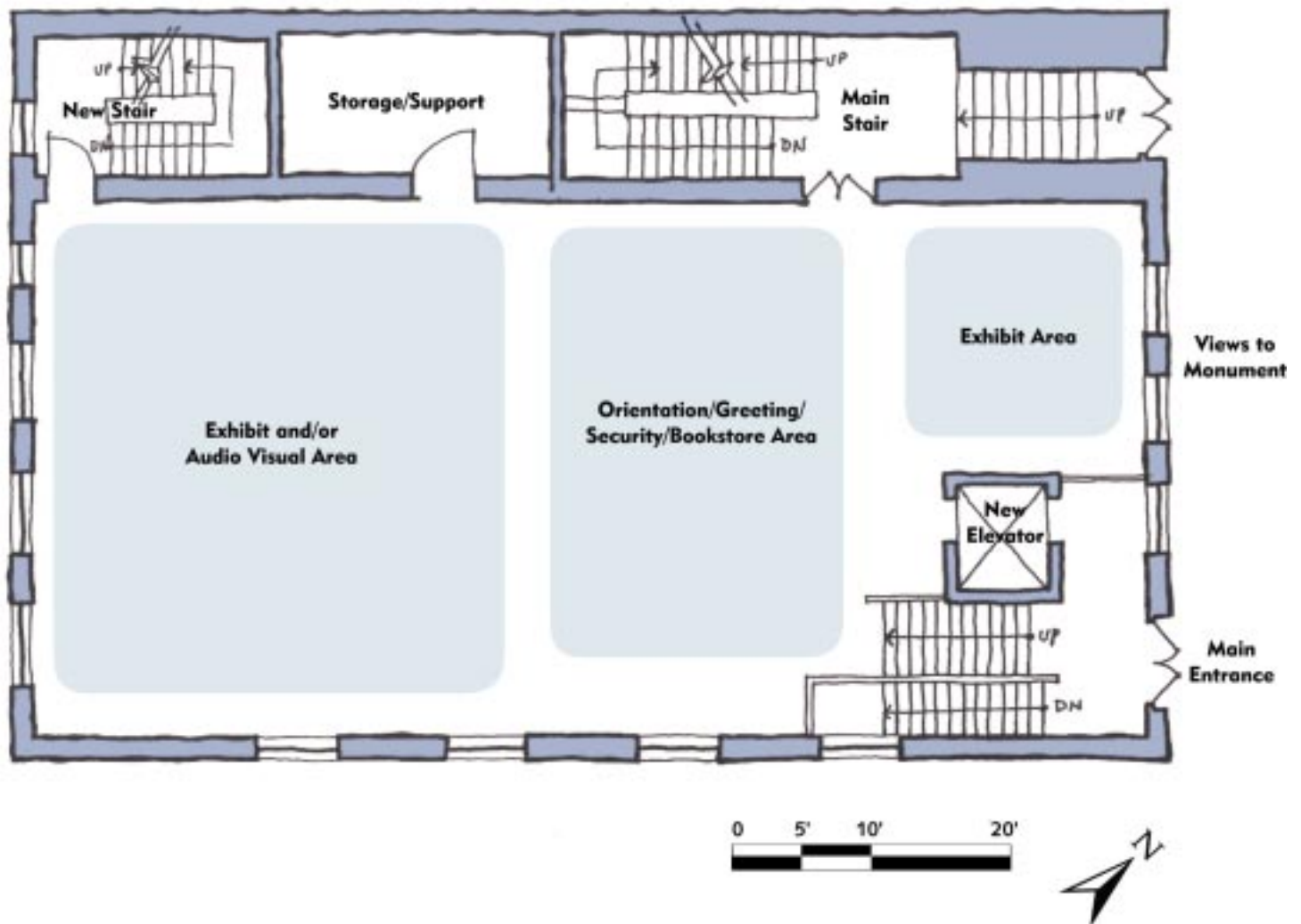




NATIONAL PARK SERVICE

Figure 10
Bunker Hill Monument Rehabilitation
Alternative B
Museum, 1st Floor

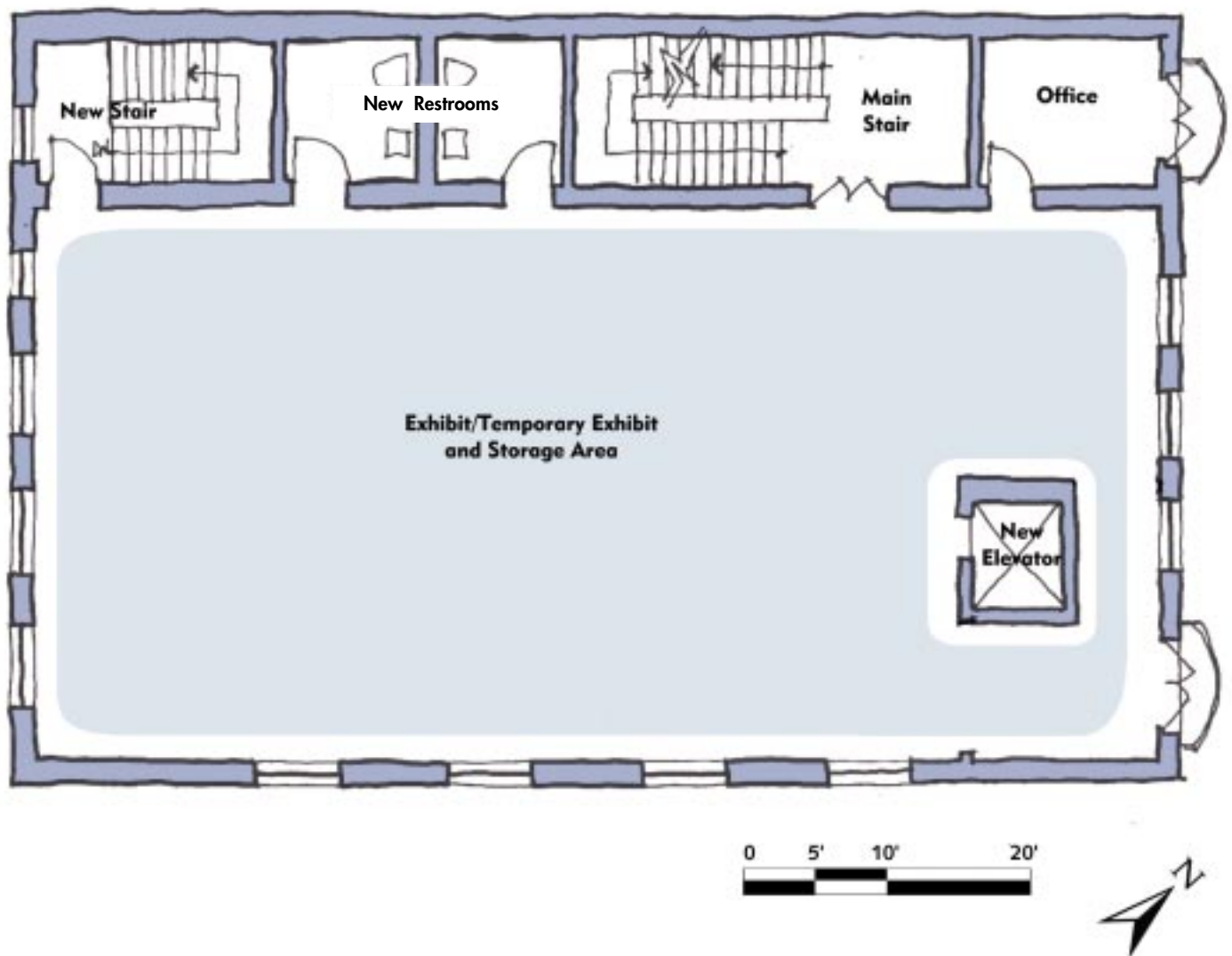




NATIONAL PARK SERVICE

Figure 11
Bunker Hill Monument Rehabilitation
Alternative B
Museum, 2nd Floor





NATIONAL PARK SERVICE

Figure 12
Bunker Hill Monument Rehabilitation
Alternative B
Museum, 3rd Floor



2.4 Alternative C- Rehabilitation and Upgrade of Monument Site

Alternative C would consist of rehabilitation elements for the Monument, Lodge, and grounds (Figure 13). No work would be done to the community Museum, thus the limited space and viewing hours would remain. The following improvements are proposed as part of Alternative C.

2.4.1 Bunker Hill Monument and Lodge

- Repoint the Monument as needed to reduce and eliminate water infiltration;
- Improve ventilation at the top of the Monument in order to reduce condensation and to provide fresh air to visitors;
- Clean some of the exterior surface of the Monument to enhance its appearance and to remove graffiti;
- Renovate the facility to assure that its components are universally accessible to persons with disabilities in compliance with ADA standards, to the greatest extent feasible, including a new accessible entrance through the south façade of the Lodge and access to the base of the Monument;
- Repair/replace the Lodge skylights;
- Add a new accessible restroom to the Lodge;
- Facilitate the removal of hazardous materials present within the Lodge;
- Enhance interior lighting for the Monument and Lodge; and
- Provide emergency lighting in the Monument and Lodge.

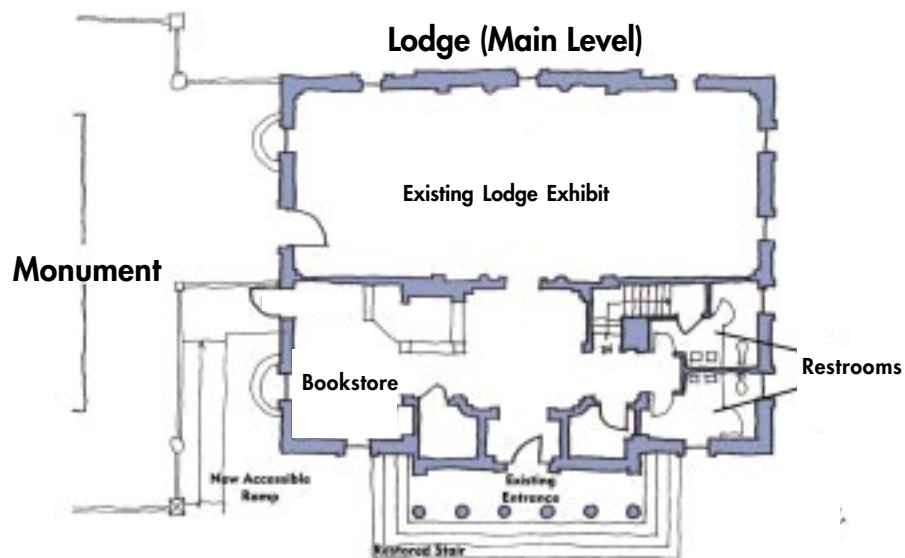
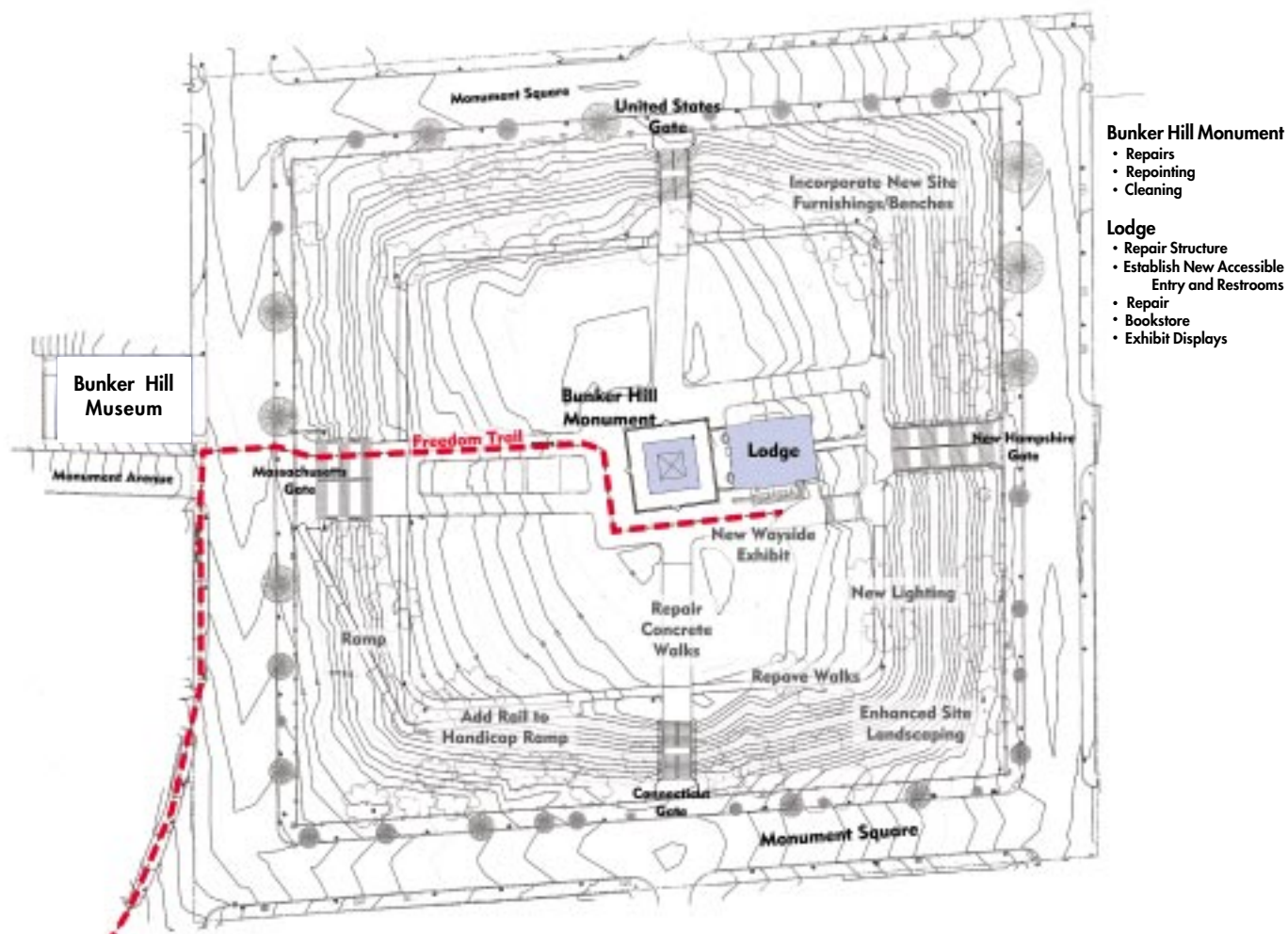
2.4.2 Monument Grounds

- Retain the granite platform, concrete plaza, and iron fence enclosure around the Monument and ensure that compatible materials are used for additional site features;
- Maintain a well graded and uncluttered manicured lawn;
- Replace missing trees and remove and replace unhealthy and severely leaning trees that contribute to the double tree line as necessary; rejuvenate, replace-in-kind, or replace with appropriate substitute as required;
- Use floodlights to make obelisk an architectural statement;
- Provide lighting for the Prescott statue and the Lodge;
- Repair and replace sidewalks and walkways;
- Create new curb cuts where needed;
- Improve the site accessibility through improvements to the existing ramp, railing, and curbing;
- Replace existing “cobra head” light fittings with more appropriate fixtures in scale and in character with the site;
- Enhance lighting around the grounds and install landscape lighting;
- Improve signage and add outdoor interpretive exhibits to provide an enhanced experience for visitors; and
- Add or improve benches.

Mitigative measures would be taken to minimize impacts to natural and cultural resources adjacent to the project area and to visitors. These would include use of erosion and sediment controls during construction and timing construction to avoid the peak visitor season. Any restoration of vegetation in the lawns and surrounding trees should be done using species consistent with the development of the urban character of the site. These measures and others are discussed in greater detail in the appropriate impact sections of “Chapter 3: Affected Environment & Environmental Consequences.” Alternative C would cost approximately \$1,100,000.

2.5 Alternatives Considered but Rejected

An alternative considered but rejected by the planning team improved the interpretive services by developing an interpretive center in the Museum without rehabilitating the Lodge, the Monument, or the Grounds. While this alternative would provide enhanced interpretive exhibits and improvements to the Museum, including universal accessibility and exhibit space, the alternative would not provide adequate accessibility to the BHM site. Upgrades to the Monument and Lodge are necessary for resource management, as noted by the GMP, through the preservation of the buildings and grounds, including the Monument, Lodge, pathways, trees, lawns, and fences. This alternative would not meet the project goals of preserving the cultural resources and improving access where feasible and therefore was not considered further.



NATIONAL PARK SERVICE

Figure 13
Bunker Hill Monument Rehabilitation
Alternative C



2.6 Preferred Alternative

Alternative B is the Preferred Alternative because it effectively meets the purpose and need by preserving the Monument and Lodge, enhancing safety for visitors using the buildings, retaining the existing character of the historic site, and improving the interpretive services of the site. Alternative B also involves no significant adverse impacts to cultural or natural resources.

Both Alternatives B and C include rehabilitating the Monument and Lodge, which would provide improved accessibility and visitor experience. Alternative B, however, would provide a more extensive interpretive facility in the Museum and would allow the Lodge to return to its original purpose as a commemorative site. The improvements proposed in the Preferred Alternative would help to educate the public on the historic significance of the site while preserving the area as a testament to the events of the Revolutionary War. Alternative C would not provide as extensive a space for interpretive services and would continue to utilize the Lodge for various activities, including a bookstore. Without improving the Museum and establishing an interpretive center, the goal of enhancing interpretive services to comprehensively portray the events of the battle would not occur.

Alternative A, No Action, would not address the established needs or meet the purpose of the project, as no improvements to the structures or grounds would be made. Bunker Hill Monument would continue to deteriorate from the effects of the weather and could pose a safety hazard to visitors using the facilities as a result of accumulating water and ice. With Alternative B, the Lodge would become a commemorative site with improved access; the grounds would retain the park surroundings while improving the walkways and lighting and providing adequate drainage to prevent erosion. The Museum would provide a full interpretive site that, while nearby, would be distinct and separate so that the site retains its original contemplative nature.

Alternative B is the Preferred Alternative because it would rehabilitate the structures as needed and would also significantly expand the interpretive services at the site. Additionally, these improvements would be achieved at minimal cost with beneficial impacts to cultural resources and landscape.

2.7 Environmentally Preferred Alternative

The Environmentally Preferred Alternative is defined by the Council on Environmental Quality as “the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act [Section 101 (b)]. Section 101 (b) states that the Environmentally Preferred Alternative should:

- “Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.

- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
- Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
- Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.”

Based on the impact analysis of the alternatives, Alternative B has been identified as the Environmentally Preferred Alternative. As noted above, Alternative B meets the purpose and need of the project by enhancing the interpretive experience of the visitor and minimizing the impacts on cultural resources throughout the site. The extremely limited visitor experience with only one outdoor exhibit on site would be expanded. The existing community-operated Museum would be improved and upgraded to house exhibits and an audio-visual program associated with the Battle of Bunker Hill. The hazardous materials identified within the building would be removed. By providing the more developed and accessible interpretive center, the visitor experience can be enhanced through exhibits and interpretive displays that more fully explain the regional context of the site. Infrastructure and landscape improvements to the Bunker Hill Monument buildings and grounds would enhance and maintain the interpretive capabilities and preserve historic resources. In addition, this alternative brings the facility into compliance with Federal regulations for universal accessibility where feasible. Alternative A does not meet the project purpose and would result in continued adverse impacts to cultural resources as present conditions and inaccessibility persist. Alternative C would have less adverse impact on the resources initially, but would result in an increased demand on the Lodge to provide greater interpretive services that would not adequately present the commemorative space the Lodge was intended to provide. The Environmentally Preferred Alternative minimizes the impacts while still achieving the goals of the project.

Table 1 provides a summary of the environmental consequences related to each alternative.

Table 1: Summary of Environmental Consequences

Resource	Alternative A	Alternative B	Alternative C
Cultural Resources	<p>Continued deterioration of the Monument and Lodge through water infiltration.</p> <p>Continued degradation of the cultural landscape with deteriorated sidewalks and inappropriate lighting.</p> <p>Continued limited space and hours for the presentation of exhibits.</p>	<p>Prevent water infiltration causing deterioration of the Monument.</p> <p>Prevent water infiltration from the Lodge roof and skylight and prevent risk of damage to museum collections housed in the lodge, including several significant paintings.</p> <p>Rehabilitation of the Monument, Lodge and surrounding cultural landscape.</p> <p>Replacement of cobra style lighting to provide more historically appropriate fixtures.</p> <p>Rehabilitation of the Bunker Hill Museum interpretation allows the Lodge to be returned to its historic appearance as a contemplative space instead of an interpretive facility.</p>	<p>Prevent water infiltration causing deterioration of the Monument.</p> <p>Prevent water infiltration from the Lodge roof and skylight and prevent risk of damage to museum collections housed in the lodge, including several significant paintings.</p> <p>Rehabilitation of the Monument, Lodge and surrounding cultural landscape.</p> <p>Replacement of cobra style lighting with more historically appropriate fixtures.</p>
Visitor Experience	<p>Continued deterioration of the monument and buildings.</p> <p>Safety hazards from condition of buildings.</p> <p>Limited interpretive materials.</p> <p>Not accessible.</p>	<p>Accessibility improvements to the site ramp and to the Lodge, Museum, and Monument.</p> <p>Reduced tripping hazard with improved sidewalks and lighting.</p> <p>Enhanced interpretive services provided by the Museum exhibits, displays, and improved circulation.</p> <p>Contemplative space would be provided with the Lodge.</p>	<p>Accessibility improvements to the site ramp and to the Lodge, and Monument.</p> <p>Reduced tripping hazard with improved sidewalks and lighting.</p> <p>Continued limited interpretive materials and space.</p> <p>Lodge remains with mixed use rather than commemorative site as originally intended.</p>
Infrastructure and Park Operations	<p>Continued deterioration of the Lodge and Monument and potential impact to the building structure.</p> <p>Continued water infiltration problems leading to closure of the Monument.</p> <p>Inadequate utilities and drainage at facility.</p>	<p>Utilities and drainage upgrades and improvements to provide adequate services to visitors.</p> <p>Increase in personnel needed to staff the Museum.</p> <p>Decrease the amount of hours needed for maintenance of the Monument and Lodge.</p> <p>Improvements to the Museum building to provide accessibility and preserve historic materials.</p>	<p>Decrease the amount of hours needed for maintenance of the Monument and Lodge.</p> <p>Utilities and drainage upgrades and improvements to provide adequate services to visitors.</p>
Costs	Current operating costs	\$3,100,000	\$1,100,000

3 Affected Environment

3.1 Introduction

This chapter describes the existing environmental conditions in and around the project site. The chapter is organized by resource topic including cultural resources, visitor experience and interpretive resources, and infrastructure as it relates to drainage. Chapter 4 discusses the impacts of the proposed project on these existing conditions.

3.2 Cultural Resources

Commemoration of the Battle of Bunker Hill began in 1794, when King Solomon's Lodge of Freemasons erected a monument to Masonic brother Major General Joseph Warren on Breed's Hill. The monument, a wooden Tuscan style pillar with a gilt urn final, was placed on the presumed spot where Warren fell. Over the next thirty years, efforts were made to preserve the site and memorialize the battle in its entirety.

In May 1823, the first meeting of the "Bunker Hill Monument Association" was held. The Association, comprised of 25 men, was charged with overseeing the construction of a suitable monument to stand as testament to the battle. On June 7, 1823, Governor William Eustis approved an act formally establishing the Association.

The Monument, Lodge, and surrounding grounds were designated as a National Historic Landmark by the Secretary of the Interior in January 1961 and thus were automatically placed on the National Register of Historic Places upon the register's creation in 1966. In addition, in 1987, Monument Square, the former Charlestown Public Library, and the surrounding buildings facing the square were listed on the National Register as the Monument Square Historic District.

3.2.1 Historic Structures

The Monument

Boston architect Solomon Willard is credited with the final design of the 221-foot granite obelisk, and served as superintendent overseeing construction until its completion. The first cornerstone of the Monument was laid on June 17, 1825, the fiftieth anniversary of the Battle of Bunker Hill. The Association purchased a quarry in Quincy to supply the granite needed for the construction of the

Monument. In 1826, a railway was constructed to transport the granite from the quarry to the shore of the Neponset River. However, while considered innovative at the time, the railway was eventually abandoned in 1828 and replaced by teams of horses and oxen, due to delays, liability, and damages to the granite.

Facing financial hardship, on September 25, 1839, the Association sold nine of the fifteen acres of the battlefield they had originally acquired in order to finance the final construction of the Monument. Willard designed an urban neighborhood by subdividing the nine acres into 115 building lots surrounding the Monument, thereby forming “Monument Square.” Willard’s plan for the remaining six acres provided four acres of open space surrounding the Monument and two acres for four, 50-foot wide streets surrounding the square.

Subsequent fundraising led by three key individuals, Sarah J. Hale of Boston, editor of *Ladies Magazine*, Judah Touro, a wealthy merchant, and Amos Lawrence, an active fundraiser for the Massachusetts Charitable Mechanics Association, provided the necessary funding for the completion of the Monument. In addition, the hiring of James Sullivan Savage as to oversee construction accelerated the completion of the Monument. In 1841, Savage introduced a steam engine in place of horses to hoist stones. Savage also created a unique boom derrick to raise stones to the top of the structure. On Saturday, July 23, 1842, seventeen years after the cornerstone was laid, the capstone of the Monument was set, officially completing the construction of the Bunker Hill Monument.

The Monument is a narrow 221-foot granite obelisk and represents one of the most characteristic elements of the Charlestown skyline, visible from many locations within downtown Boston and around Boston Harbor (Figure 3). Visitors may climb to the top of the Monument via 294 spiral steps and enjoy a panoramic view of Boston, Charlestown, and nearby communities.

The Lodge

The Bunker Hill Lodge is a single-story granite building completed in 1902 to replace an earlier wooden lodge. The main level accommodates historic paintings and sculptures, interpretive exhibits, and visitor services including a bookstore and restrooms. The basement level contains public restrooms as well as support spaces that are not open to the public. The building, located adjacent to the Monument, is built in the Neo-Classical style with a projecting portico at the front entrance with six columns. There are two window openings on the front (east) façade centered between corner pilasters and the projecting portico. The main entry door is centered within the portico. Steps lead to the entrance and incorporate an access ramp on the south side that does not meet ADA standards. On the north façade there are four evenly spaced windows. The large windows have a lattice-design grill and are set deep within the window opening framed by a carved granite architrave. On the north elevation there are two basement openings, aligned under the two outer upper windows. The southern-most window opening has been blocked. In the center, aligned between the two center windows, there is a doorway with a metal door reached via a sloped walkway. On the rear (west) façade there is a low-relief projecting pavilion with corner pilasters carrying the continuous carved entablature. There are three bronze casement windows centered within each bay. There are three basement level windows evenly spaced within the projecting pavilion and

covered with an iron grill. On the south façade, there is a doorway with articulated carved granite surround and three windows.

The Museum

The existing Bunker Hill Museum is a community-operated museum located at 43 Monument Square. The building was originally designed by the Boston Public Library Supervising Architects, Fox & Gale, as the Charlestown Branch of the Boston Public Library. The building was constructed in 1912 in the Neo-classical style. In 1976, the library branch was closed, and shortly thereafter the building was converted into the Bunker Hill Museum. The building remains in the ownership of the City of Boston, yet is managed and operated on a volunteer basis by the Charlestown Historical Society. Located on the south side of Monument Square, this building enjoys a favorable position along the Freedom Trail facing the Monument. The building is located opposite the Massachusetts Gate. The existing ramp that provides access up to the Monument and Lodge begins directly across the street from the Museum building. The full-height windows on the front façade offer exceptional views of the Monument from within the building.

Museum Exterior

The structure is a three-story brick building with limestone trim, granite foundation and sills, and windows on three of the four façades. The front (north) façade is divided into five bays with two entrances having decorative Neo-Classical surrounds on each side. Cast iron balconies and wood casement windows are located directly above these two entries. In the center three bays there are windows at each of the three floor levels. The lower level windows are boarded with plywood, but inspection from the interior indicates that the original wood hopper sash are intact and in fair condition. The second floor windows are large full-height, six-over-nine double-hung wood sash windows with half-round decorative panels above on the exterior. The third floor windows, aligned with the ones below, are surrounded by limestone trim with carved panels below containing a bas-relief of the Boston Public Library logo and lettering identifying the history of the building as the Charlestown Library.

As the last structure built on Monument Square, the library building replaced a brick mansion belonging to Captain J. B. Thomas. The Library's detailing and massing makes direct reference to the other public buildings on the square, including the Monument, the Lodge, and a former high school. Large dressed blocks of gray granite comprise the base or foundation of the building. Granite is also used for the main entry steps, ground floor windows sills, and lintels. Carved limestone is used to visually divide floor plates with articulated stringcourses. Limestone trim is also used to delineate the window and door openings and to provide ornament with carved panels, modillion blocks, and parapet caps.

Immediately to the west, the building originally abutted a townhouse sharing a brick party wall. However, the townhouse was razed in 1935 leaving the party wall exposed (Bundschuh 2001). Once exposed, the wall was coated with concrete to protect the absorbent interior brick from the effects of weather. This coating has since broken down, cracked or broken off, and chipped, letting water into the structure and allowing freeze/thaw cycles to occur. The conditions of the interior of this wall clearly illustrates that water penetration has been ongoing and the effects have been damaging.

Museum Interior

On the interior, the building is organized based on its original functions. The 10,200 square feet of space was designed to serve three major functions: to provide a space for public assembly in the auditorium on the first level; to offer a children's library on the second floor; and to provide an adult library on the third floor. The first floor, accessed through a side entrance on Monument Avenue or via the main stair hall on the west side of the building, contained a large, 37x50-foot assembly room including a raised platform stage and six large windows. There is a rear entrance, small kitchen, two restrooms, a circulation corridor and main stair hall, and two mechanical rooms. Access to the vaulted space under the front sidewalk and a concrete-floored sub-basement is also provided on this floor. The second floor is accessed either through the main stair hall from the lower level or from either of the two main entrances on the north elevation. This floor contains the large children's library space, which most recently has been used by the Bunker Hill Monument Association and the Charlestown Historical Society as exhibit and gift shop space. The second floor also contains a shallow alcove in the rear southwest corner, a small restroom, and an area containing a book dumbwaiter and airshaft. The remaining space for the second floor is dedicated to vertical circulation to other floors and the main entrances at the front elevation. The third floor, originally used as the adult library and more recently as archives storage space for the Historical Society and the Bunker Hill Monument Association, includes a large rectangular space with perimeter oak casework and ten large, double-hung wood windows. A long, narrow storage room is located in the southwest corner and a well-lit office is located in the northwest corner adjacent to the main stair hall. A small restroom and an area containing the book dumbwaiter and airshaft are aligned directly above those found on the second floor. The building in general has two entries on the north elevation, one on the east elevation, and a set of exit doors at each level leading to an iron fire escape on the rear (south) elevation.

3.2.2 Cultural Landscapes and Archeological Resources

The Grounds

The Monument and adjacent Lodge stand atop a granite platform situated in the center of the square and surrounded by an iron fence. The entrance to the Monument originates through the Lodge, and the Lodge can be accessed from the surrounding streets via four sets of stone stairs as well as a concrete ramp that does not presently meet ADA standards. A paved area used as a gathering and resting place surrounds the platform and offers opportunity to conduct interpretive sessions. Located here are approximately nine benches of various styles. A grassy slope extends out on all sides from the plaza with four staircases, one on each side of the site, that lead to the four original entrances to the park. Erected in 1844 and rebuilt in the 1870s, the iron perimeter fence encloses the entire site and has opening gates at each entryway.

Massachusetts Gate is located on the south side of the site, facing the Monument and Prescott statue. It is the widest, steepest, and grandest of the four staircases and has become the primary entrance. New Hampshire Gate is as wide as Massachusetts Gate, but faces the back of the Monument and Lodge. The other two gates are the Connecticut and United States Gates on the southwest and northeast side, respectively. A concrete ramp built in the 1970s originates from the Massachusetts Gate entrance and provides access to the upper plaza perimeter walkway; however, the existing ramp does not meet ADA

standards. There is a vehicular gate at the corner between the Massachusetts and the United States Gate that is kept closed except for use by maintenance or emergency vehicles. Using this access has damaged the grass slopes surrounding the Monument.

The pattern of lawn and shade trees is consistent with the development of the urban character of the site. The site consists predominantly of artificially planted, mixed fescue lawn that covers the slopes from the street sidewalks to the park walkways. In addition, there are numerous trees that dot the grounds and line the fence surrounding the site. Approximately six species are represented: white oak (*Quercus alba*), red oak (*Quercus rubra*), pin oak (*Quercus palustris*), green ash (*Fraxinus pennsylvanica*), Patmore green ash (*Fraxinus pennsylvanica* 'Patmore'), Summit green ash (*Fraxinus pennsylvanica* 'Summit'), and horse chestnut (*Aesculus hippocastanum*). Historically a double row of trees lined the interior of the perimeter fence (CLR). While some evidence remains of the symmetrical planting plan, various planting schemes over time have led to different assortments, resulting in a loss to the original plan.

Archeological Resources

A variety of archeological research at Bunker Hill has been conducted in conjunction with several previous projects at the site. These include construction around the base of the Monument in 1980; monitoring of a trench for the installation of new telephone cable during 1991; and Section 106 compliance work for a proposed irrigation system in 1996, where some preliminary test pits yielded one fortification-like feature (redoubt). These and other investigations are discussed in further detail in Chapter 5, Section 106 Case Report.

3.3 Visitor Experience and Interpretation

Bunker Hill Monument is used year-round by park visitors and local residents who come to experience part of the past and also enjoy the urban park grounds. Currently, visitors experience limited visitor services at the site. Most visitors to the site come on foot via the Freedom Trail. Once at the site, visitors can walk along the sidewalks that surround the Monument and Lodge to view the site and contemplate the events that occurred. There are several markers noting the location of fortifications. The sidewalks are cracked, and lighting is limited on the grounds. Large highway-style "cobra head" lights are in each quarter of the site, and there are floodlights in the southeast and northwest corners that light the Monument at night.

Access to the Monument is through the Lodge, which contains a small contact desk and displays and seasonally sells a limited assortment of books. Several small exhibits depict the events and people of the Battle of Bunker Hill. Lighting in the Monument is minimal, with a few lights along the stairwell and several vent shafts that offer light. Once at the top of the Monument, the visitor can look out on a panoramic view of the surrounding skyline through four sets of windows.

The Lodge has limited access with a ramp along the front of the building and that narrows appreciably as it passes between the façade and columns. There is a wooden ramp leading from the Lodge to the

Monument, which is reached from the south side of the Lodge or from a gate on either the east or west side between the buildings. There is no handicap access within the Monument itself. An access ramp from Massachusetts Gate climbs across the southeast corner and meets the upper asphalt perimeter walkway. This ramp does not currently meet approved standards.

Visitation to the site is limited in poor weather or during the winter when ice accumulates in the interior staircase of the Monument, forcing the site to close. In addition to the Monument and Lodge, visitors can view exhibits in the community-operated Museum across the street. The Museum houses a small display of the historic events, but has limited space and limited hours of operations.

Monument Square also functions as a community pocket park as well as a historical landmark. Many people from the Charlestown neighborhood congregate and utilize the facility as part of their urban recreational experience. The lawn and shade trees, as well as several benches throughout the site, offer an open space environment among the surrounding buildings.

3.4 Infrastructure and Drainage

The existing drainage system on NPS property consists of runnels (ditches) that extend from the upper edge of the lawn to the street along each of the entrance stairways and discharge into makeshift catch basins at the base along the perimeter gate. These runnels have become disassociated with the surface drainage system over time and are less effective in diverting water and reducing erosion of the lawn. The lawn area is mowed on a weekly schedule by NPS maintenance staff. The row of trees along the perimeter of the park work in unison with street trees planted in the public sidewalk to create a double row of trees that outline the site.

Utilities lines including gas, water, telephone, and electric are underground and run under the structures and pavement to the street. These are adequate for the current conditions, although they do not take into consideration increased visitation and use over time.

4 Environmental Consequences

4.1 Introduction

This chapter describes the environmental consequences of the alternatives. The chapter is organized by resource topic and includes a discussion of probable impacts of each of the three alternatives. Cumulative impacts, an analysis of impairment, and a brief conclusion can be found at the end of each of the major resource sections. Appendix A provides a table of laws, regulations, and guidelines applicable to this project (Table A).

4.2 Methodology for Assessing Impacts

Potential impacts are described in terms of type (beneficial or adverse), context (site-specific, local, or regional), duration (short-term or long-term), and intensity (negligible, minor, moderate, or major). Because definitions of intensity (negligible, minor, moderate, or major) vary by impact topic, intensity definitions are provided separately for impact topics.

Duration

For all resources and values, the duration of impacts in this document is defined as follows:

Short-term: Impacts that last less than two years.

Long-term: Impacts that last longer than two years.

4.2.1 Cultural Resources

The following impact indicators were used to determine impacts to cultural resources, including cultural landscape and viewsheds.

Negligible: impact(s) is at the lowest levels of detection - barely perceptible and not measurable.

Minor: impact is measurable or perceptible, but is slight and localized within a relatively small area of a site.

Moderate: impact is measurable or perceptible and changes one or more feature of a cultural resource but does not diminish the integrity of the resource.

Major: impact is substantial, noticeable, and permanent. The impact changes a feature of the resource and diminishes its integrity.

4.2.2 Visitor Use and Experience

The ability of the visitor to effectively access and safely use the project area was the basis for determining potential impacts of each alternative. The intensities of the impacts are defined as:

Negligible: the impact is at the lowest level of detection – barely perceptible and not measurable.

Minor: the impact is slight but detectable and would affect few visitors.

Moderate: the impact is readily apparent and would affect many visitors.

Major: the impact is severely adverse or exceptionally beneficial and would affect most visitors.

4.2.3 Impairment

In addition, the National Park Service's *Management Policies, 2001* require analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. However, the laws do give the Park Service the management discretion to allow impacts to park resource and values when necessary and appropriate to fulfill the purposes of the park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the Park Service the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including opportunities that otherwise would be present for the enjoyment of those resources and values. An impact would be more likely to constitute an impairment to the extent it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents.

Impairment may result not only from NPS activities in managing the park, but also visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. A determination on impairment is made in the "Cumulative Impacts, Impairment, and Conclusions" section under each impact topic.

4.2.4 Cumulative Impacts

The Council on Environmental Quality (CEQ) regulations, which implement the NEPA, require assessment of cumulative impacts in the decision making process for Federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7).

Cumulative impacts were determined by combining the impacts of the alternatives with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Boston National Historical Park and, if applicable, the surrounding region. There are a number of other recent, planned, or underway projects within the Boston National Historical Park and the City of Boston that could contribute to cumulative impacts. Generally, these would contribute to an enhanced quality of visitor experience and a reduction in the level of environmental impact associated with park operations. These include:

- Rehabilitate Building 5 in the Charlestown Navy Yard to serve as the Navy Yard visitor center;
- Closing Bunker Hill Pavilion (upon completion of the visitor center in Building 5);
- New public parking garage at the "Nautica" for BNHP park visitors;
- Tour bus layover parking at Autoport in Charlestown; and
- Complete Central Artery/Tunnel Project (and improve signage)

4.3 Cultural Resources

4.3.1 Effects of Alternative A

Alternative A would retain the site in its current condition with the continued deterioration of historically significant resources at the site including the Monument, Lodge, and grounds, as well as the adjacent Museum building. The recommendations outlined in the CLR would not be implemented, and the structures and grounds would continue to deteriorate. The No Action Alternative could lead to major long-term adverse impacts to the National Register listed Monument, Lodge, and Museum as water infiltration would continue to deteriorate these historic resources.

4.3.2 Effects of Alternative B (Preferred Alternative) and Alternative C

Alternatives B and C would rehabilitate the cultural resources at the Bunker Hill site in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995) and would follow the recommendations outlined in the CLR. Specific improvements to the Monument would include repointing the structure to prevent damaging water infiltration and freeze/thaw cycles, improving ventilation at the top of the Monument to reduce condensation, removing graffiti at the base of the Monument, and making the base of the Monument accessible to disabled persons. Improvements to the Lodge would include restoring the front portico by removing the historically inappropriate 1970s access

ramp, creating a new entrance in compliance with ADA requirements, creating a universally accessible restroom on the main level, and repairing and/or replacing the skylight to prevent further water infiltration that is damaging the building. In addition, relocating the exhibits from the Lodge to the Museum would restore the Lodge to its intended function as a contemplative space.

Alternatives B and C would also include rehabilitating the grounds by replacing the visually obtrusive “cobra style” light fixtures with more historically appropriate fixtures, improving the circulation paths throughout the site to follow the original network of paths, and implementing the recommendations in the CLR regarding tree plantings around the perimeter fence and throughout the site. Additional improvements to the grounds including improving the existing access ramp at the Massachusetts Gate, which currently does not meet ADA standards, and installing improved landscape lighting, benches, signage, and additional interpretive exhibits would aid in the visitor’s appreciation for the cultural resources at the site.

In order to avoid impacts on known and unknown archeological resources, the project designers will work closely with the archeologists to locate subsurface work in areas of previous disturbance or of low archeological potential. Known archeological resources will be avoided to the maximum extent possible. Where site work such as installing footings for new lighting and electrical utility lines is required in areas having archeological potential, spot testing to determine whether or not archeological resources are present will be conducted and appropriate design revisions made before construction. An archeologist will be on call during construction to investigate any archeological resources that might be uncovered.

Unique to Alternative B would be the rehabilitation of the Museum. Rehabilitating the Museum would include making the building universally accessible to meet ADA standards. This would require modifications to the front northeast entrance by replacing the existing door and steps to allow for an at-grade entrance into the building. Interior modifications to achieve handicap access would include installing an elevator and accessible restrooms. Additional exterior improvements would include removing the stairwell in the southwest corner of the building. Also on the exterior, the brick masonry would be repointed; the roof would be replaced; and the historic windows and decorative limestone trim would be restored.

4.3.3 Effects of Alternative C

Alternative C would not include rehabilitating the Museum building and as a result, further deterioration would occur to the National Register listed building. Water infiltration would continue to occur, and the historic windows and decorative limestone trim would continue to deteriorate. The Lodge would continue to be used for multiple purposes, instead of a commemorative space, as intended.

4.3.4 Cumulative Impacts, Impairment, and Conclusions

Alternative A, the No Action Alternative, could have long-term adverse impacts on the historic resources at the Bunker Hill site because the Monument, Lodge, and grounds could continue to deteriorate. In

addition, the No Action Alternative would also have long-term adverse impacts on the adjacent Museum building, as it too would continue to deteriorate. As proposed in Alternative B rehabilitating the buildings, structures, and grounds at the site, and the adjacent Museum, would comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995), and would follow the recommendations outlined in the CLR. Alternative B would have moderate, beneficial, long-term impacts on the cultural resources at the Bunker Hill site and no irreversible or irretrievable adverse impacts to historic integrity. Similar to the No Action Alternative, Alternative C would have long-term adverse impacts on the adjacent Museum building, as the building would continue to deteriorate. None of the action alternatives would result in impairment of cultural resources.

4.4 Visitation Experience and Interpretation

4.4.1 Effects of Alternative A

The poor condition of the Monument and Lodge, and the exhibits housed within, would continue to decline and would result in a decrease in quality of the visitor experience. Routine maintenance would continue, but building repairs would be on an as needed basis, as would replacing vegetation and trees on the grounds. The current detrimental effects of visitor use on vegetation would remain, and the slope along the northwestern side of the site would continue to erode. The row of trees along the perimeter of the site would remain in its current condition with aged trees that are declining.

As the Lodge building is not fully accessible and has physical deficiencies, the No Action Alternative would have a detrimental long-term impact on the quality of visitor experience. Limited interpretive displays would remain in the Lodge and this space would continue to be used for various services instead of the open commemorative area that was originally intended. The Museum would still offer limited space and hours to view the small displays that are currently housed in the building. The No Action Alternative, however, would not lead to any immediate construction noise or air quality impacts, nor would there be any disturbance in visitation, except for the continued closure of the Monument when water and ice occur on the steps and continued limited hours of the Museum. Alternative A would lead to a continued deteriorating quality of the visitor experience at the site and would offer no long-term benefits. Alternative A would have a long-term adverse moderate impact on the visitor experience.

4.4.2 Effects of Alternative B (Preferred Alternative)

Rehabilitating the Bunker Hill Monument site would ensure that visitors would have continued access to the Monument, Lodge, and Museum. Alternative B would improve the physical condition of the buildings by increasing ventilation at the top of the Monument, providing accessible restrooms in the Lodge and the Museum, and facilitating the removal of hazardous materials within the structures. The Museum rehabilitation would include an at-grade entrance and the installation of an elevator to accommodate access to all three levels. Restoring the Lodge to its original contemplative intent would allow visitors a better experience of the commemorative site.

The enhancements to the BHM would be beneficial because they would increase the efficiency of the building systems by reducing maintenance costs and improving circulation within and between the buildings. Improved efficiency of the buildings would allow increased space for interpretive displays and exhibits. Park operations would benefit by repairing and replacing sidewalks to eliminate tripping hazards and by reducing maintenance needs and closures by repointing the Monument and fixing the Lodge roof. Park operations would require the increase of approximately two NPS staff members to operate the Museum.

Interpretation at the site would be greatly improved and would meet the goals of the Boston National Historical Park GMP. The proposed use of the Museum for expanded interpretive exhibits, including an audio-visual display of the historic events, bookstore, and concessions, would improve the visitor's understanding and appreciation of the site as well as make the visit more pleasant. The interpretive services would be consolidated into one primary location at the Museum, with additional panels and signs around the grounds and at the Lodge. An increased number of outside interpretive panels and improved walkways would present a clearer picture of the battle and the significance of the site to the visitor.

Because the interpretive center would be centralized in the Museum, the length of the visit and visitor satisfaction could increase with these improvements to structures and interpretive services. Vehicle circulation and congestion around the site during peak times creates concerns for residents of the surrounding neighborhood as the roads are narrow and idling buses are noisy.

The NPS has initiated a program of surveying visitors to identify the various modes of travel to the site. The rehabilitation and improvements to the site are not expected to increase vehicle numbers and would therefore have minimal impact on traffic issues as a result of this project. According to an evaluation done by the NPS, the experience at other historic sites within the Boston National Historical Park that have undergone major restoration or interpretive improvements over the last 20 years has indicated that these improvements of themselves have not substantially increased site visitation. However, mitigation measures for Alternative B, including outreach efforts to tour bus companies to encourage planned visits and off-site bus parking, would be continued as a means of managing traffic around the monument site. The NPS would continue to work closely with the Boston Transportation Department in conjunction with a Tourism Transportation Task Force to guide transportation planning associated with the needs of the tourism industry to enhance access to historic sites throughout the City of Boston. The NPS would prepare a strategy of managing transportation impacts associated with any increase in traffic as a result of the planned improvements to facilities. The NPS would also conduct a survey to gather information on enhancing traffic management around the site to alleviate congestion through the nearby neighborhoods.

There would be minor adverse impacts on the short-term quality of the visitor experience during construction and the closing of portions of the buildings and grounds. The repairs and improvements would be done to minimize disruption to the visitor to the extent possible. If possible the Museum would be rehabilitated first so that the Monument site would remain open. The Museum could then provide interpretive materials for the visitor if it becomes necessary to close any portion of the Monument, Lodge, or site during rehabilitation. Alternative B would have a long-term, moderate beneficial impact of improvements on the visitor experience.

4.4.3 Effects of Alternative C

Alternative C would offer many of the same benefits as Alternative B to the visitor. However, because of the limited display space at the Lodge, using exhibits to emphasize the activities that took place at this historic site would be constrained. The Lodge would remain as both a contact center and visitor center for the site, thereby not returning to a more commemorative site and contemplative space. Interpretive services would be divided among the Lodge, the Museum, and the Pavilion and Charlestown Navy Yard, as currently is the situation. As with Alternative B, mitigation measures for Alternative C would include outreach efforts to tour bus companies to encourage planned visits and off-site bus parking as a means of managing traffic around the monument site.

There would be a minor adverse impact on the short-term quality of the visitor experience during construction and the closing of portions of the buildings and grounds. The repairs and improvements would be done to minimize disruption to the visitor to the extent possible and would be completed primarily from November to March. Alternative C would have a long-term, minor, beneficial impact of improvements on the visitor experience.

4.4.4 Cumulative Impacts and Conclusions

The No Action Alternative would continue to contribute to a long-term detrimental effect on visitor use and experience by limiting the services available to all visitors, limiting handicapped accessibility, and maintaining low quality facilities at the sites. Both action alternatives would provide beneficial effects on the visitor experience by improving the quality of the facilities with the rehabilitated Monument, Lodge, and grounds. Alternative B would provide further improvement with the development of the Museum as an interpretive center with bookstore and concessions. Benefits would include improved interpretive exhibits at the museum, displayed and available for a larger audience with increased hours of operation. Improved access throughout the site would also provide a benefit to the visitor. Park operations would benefit with improved building systems and reduced maintenance requirements with both Alternatives B and C. Both Alternative B and Alternative C would include mitigation measures for outreach efforts to tour bus companies to encourage planned visits and off-site bus parking as a means of managing traffic around the monument site. Both of the action alternatives would have a temporary impact on visitor use while construction occurs, but this would be minimized by coordinating the construction to minimize disruption to the visitor to the greatest extent possible. Both action alternatives would have a long-term beneficial impact, with Alternative B providing a greater benefit than Alternative C.

4.5 Infrastructure and Drainage

4.5.1 Effects of Alternative A

Utilities would remain in their current condition and would not be adequate to provide for the increased number of visitors over time to the site. Drainage would continue to be inadequate as well, with erosion continuing, especially in the northern section of the park. Drainage ditches would not be improved which would continue poor flow of surface runoff and erosion. This would continue to affect the quality of the

lawn and produce bare patches and localized flooding when heavy rains occur. Alternative A has no impact on the existing utilities.

4.5.2 Effects of Alternative B (Preferred Alternative)

Under Alternative B, utilities would be upgraded to provide appropriate electrical and water service to the Monument, Lodge, grounds, and Museum. Upgrading restrooms would provide greater visitor accommodations, and concessions at the Museum would also require additional utilities.

The Museum would be redesigned to improve movement of visitors through the exhibits. The existing building structure would be extensively rehabilitated on the exterior and interior to house new exhibits. These improvements would preserve and enhance the existing building fabric through exterior repairs to walls, roof, windows, and doors; extensive improvements to the building interior including repainting and plaster repairs/replacement; replacing existing electrical system; providing a new HVAC and security system; providing a secondary escape stair; and providing handicapped access to all building levels including new, publicly accessible bathrooms.

All three levels of the structure would be accessible to the public. The building's primary entrance would continue to be located on the second level at the corner of Monument Avenue and Monument Square. Improvements to the entry area would provide access to a new elevator that would serve all three levels of the structure. A new stair within this entry would also provide direct access to the second floor. The second floor is situated approximately one half level above street level on Monument Avenue. This level would serve as the primary orientation and exhibit area for the museum visitor and would also include a bookstore. Exhibits on this level would potentially incorporate audio-visual elements; the windows along the Monument Square would offer views of the Bunker Hill Monument and grounds.

The exhibit would continue on the third level and is anticipated to include a temporary exhibit area. Access to the third level would be via the existing main stair or via elevator. In addition to exhibits and temporary exhibits, the third level would also accommodate new restrooms, an office space for museum staff, and storage areas.

The first level of the structure would include a community room/classroom and may also incorporate some exhibit or audio-visual elements. This level would also incorporate a kitchen area and new restrooms, storage areas and mechanical services spaces. Primary access is via the main building entrance from Monument Square via elevator or via the existing main stair. It is anticipated that this level of the building could potentially be used independently of the other two levels during hours when the main museum is closed. An existing entry from Monument Avenue directly to the classroom area would also be maintained.

Drainage on the grounds would be improved through improvements to the cement and earth runnels along the edges of the lawn. Repairs to sidewalks would have minor adverse impacts to the current grass along the edges of the walkways. Replacement and upgrades in the lighting and utilities systems would also have a minor adverse impact to the vegetation. This alternative would implement some of the

recommendations in the CLR including replacement of existing trees as current specimens decline. By replacing aged trees along the perimeter with younger stock, a healthier tree line can be promoted throughout the site.

Improved drainage would have a minor beneficial impact on vegetation by reducing flooding in heavy rains and by less erosion to the steep slopes. A minor improvement on the natural resources would occur by allowing those areas that have been eroded or have been trampled upon to regain some natural vegetation. Some lawn sections would need base material or loam to revegetate. This could have a minor adverse effect if invasive species are introduced through this means.

No modifications would occur to the utilities under the site, except to the extent that electrical lines for site lighting may need to be relocated. This would be determined when the site lighting is designed. The lighting would be designed in a manner that minimizes the need to disrupt the existing underground service.

The work at the Lodge would be minimal. Building systems to and in the Lodge would not be replaced. Some modifications to the electrical system would be done to improve the lighting, and modifications to the plumbing within the building would be done as part of the renovation of the first floor restroom for accessibility. The existing interior lighting would be replaced and emergency lighting would be added. Natural ventilation would be modified in order to improve the current airflow.

In the Museum building, the existing utility services to the building would remain. These include water, electric, telephone, and sewer. Review of these would be done when the building is surveyed for the existing conditions to determine the adequacy of current services, but it is not anticipated that any work would need to be done outside the building. Services generally enter the building at the north side, directly into the basement mechanical room. Within the building, a complete new electrical, sprinkler, HVAC, fire alarm, security, and plumbing systems would be provided.

4.5.3 Effects of Alternative C

Alternative C would provide the same upgrades in utilities and drainage as Alternative B except that no improvements would be done to any of the connections within the Museum or to the building itself.

4.5.4 Cumulative Impacts and Conclusions

Utility improvements would be provided to structures in order to upgrade the restrooms and lighting. Alternative B would require improvements to the electrical system for the Monument, Lodge, and Museum, and plumbing upgrades for the Lodge and Museum.

The No Action Alternative would lead to continuing deterioration of park resources because the poor condition of the drainage ditches and slope erosion would continue to disrupt vegetation. Aged trees on the site would not be replaced and would continue to decline. Alternatives B and C would have minor beneficial improvements by rehabilitating the drainage system and allowing vegetation to re-grow in the

areas that have been trampled, primarily along the northwestern slope. Alternatives B and C would also have minor beneficial improvements by replacing aged trees along the perimeter with healthier stock, promoting a healthier tree line throughout the site. Alternatives B and C could have minor, temporary adverse impacts associated with utility and site lighting reconstruction. Alternative B would have minor beneficial impact to the utilities in the Lodge and the Museum by upgrading the plumbing and sewer to accommodate more modern and accessible restrooms. Lighting in both buildings would also be improved.

4.6 Conclusion

Boston National Historical Park's enabling legislation states that the park was established "in order to preserve for the benefit and inspiration of the people of the United States as a national historical park certain historic structures and properties of outstanding national significance location in Boston, Massachusetts and associated with the American Revolution and the founding and growth of the United States." No impairment to park resources would result from the proposed alternatives since most impacts related to the alternatives are either beneficial, negligible or minor.

5 Section 106 Case Report

5.1 Introduction

Congressional policy set forth in the National Historic Preservation Act of 1966, as amended (NHPA) (16 USC 470 *et seq.*) includes preserving “the historical and cultural foundations of the Nation” and preserving irreplaceable examples important to our national heritage to maintain “cultural, educational, aesthetic, inspirational, economic, and energy benefits.” The NHPA also established the National Register of Historic Places composed of “districts, sites, building, structures, and objects significant in American history, architecture, archeology, engineering, and culture.” Section 106 of the NHPA requires that Federal agencies take into account the effects of their actions on properties eligible for or included in the National Register of Historic Places, and permit the Advisory Council on Historic Preservation (ACHP) an opportunity to review such actions. Federal agencies consult as appropriate with state historic preservation officers, tribal historic preservation officers or representatives, and other interested parties in fulfilling Section 106 requirements. Section 106 further requires Federal agencies to propose and evaluate alternatives to undertakings that would adversely affect historic properties, or to adequately mitigate adverse effects if avoidance cannot be reasonably achieved. Section 110 of the NHPA requires Federal agencies, in consultation with the state historic preservation officer, to locate, inventory, and nominate all properties that appear to qualify for the National Register of Historic Places. It also requires Federal agencies to manage and maintain historic properties under their jurisdiction in a manner that considers the preservation of historic, archeological, architectural, and cultural values.

5.2 Consultation Process

In July 2001, the NPS began the process of consultation with the Massachusetts Historical Commission/State Historic Preservation Officer (MHC) and the Boston Landmarks Commission. In a letter dated July 23, 2001, the NPS provided MHC with a copy of the recently completed *Bunker Hill Monument Cultural Landscape Report* and informed MHC that the preparation of an Environmental Assessment (EA) for the proposed rehabilitation project at Bunker Hill had begun. In addition, the NPS’s letter served as notification to MHC that in accordance with Section 800.8c of the Advisory Council on Historic Preservation’s regulations (36 CFR Part 800), it was the NPS’s intent to carry out its Section 106 obligations concurrently with the EA. Following the letter, NPS staff met with the MHC on July 26, 2001 to discuss the proposed project. NPS staff met again with MHC on August 8, 2001 to discuss the proposed rehabilitation project in further detail, reviewing concept drawings for the proposed project.

During the August meeting various issues were discussed including options for cleaning the Monument, accessibility issues associated with the project, ventilation options for the Monument, potential for archeological impacts associated with the improvements to the grounds, and including the Boston Landmarks Commission (BLC) in the consultation process. Following the meeting, NPS sent a letter to BLC on August 15, 2001 inviting them to participate in the consultation process and a meeting was held with BLC on September 26, 2001.

On August 24, 2001 MHC sent a letter to the NPS providing comments on the proposed Bunker Hill rehabilitation project based on the concepts presented in the previous two meetings. MHC's letter requested additional information regarding rehabilitation options for the Monument and Lodge as well as the lighting and site improvements at the site as the plans develop. MHC also requested additional information on the rehabilitation of the Museum as the plans develop.

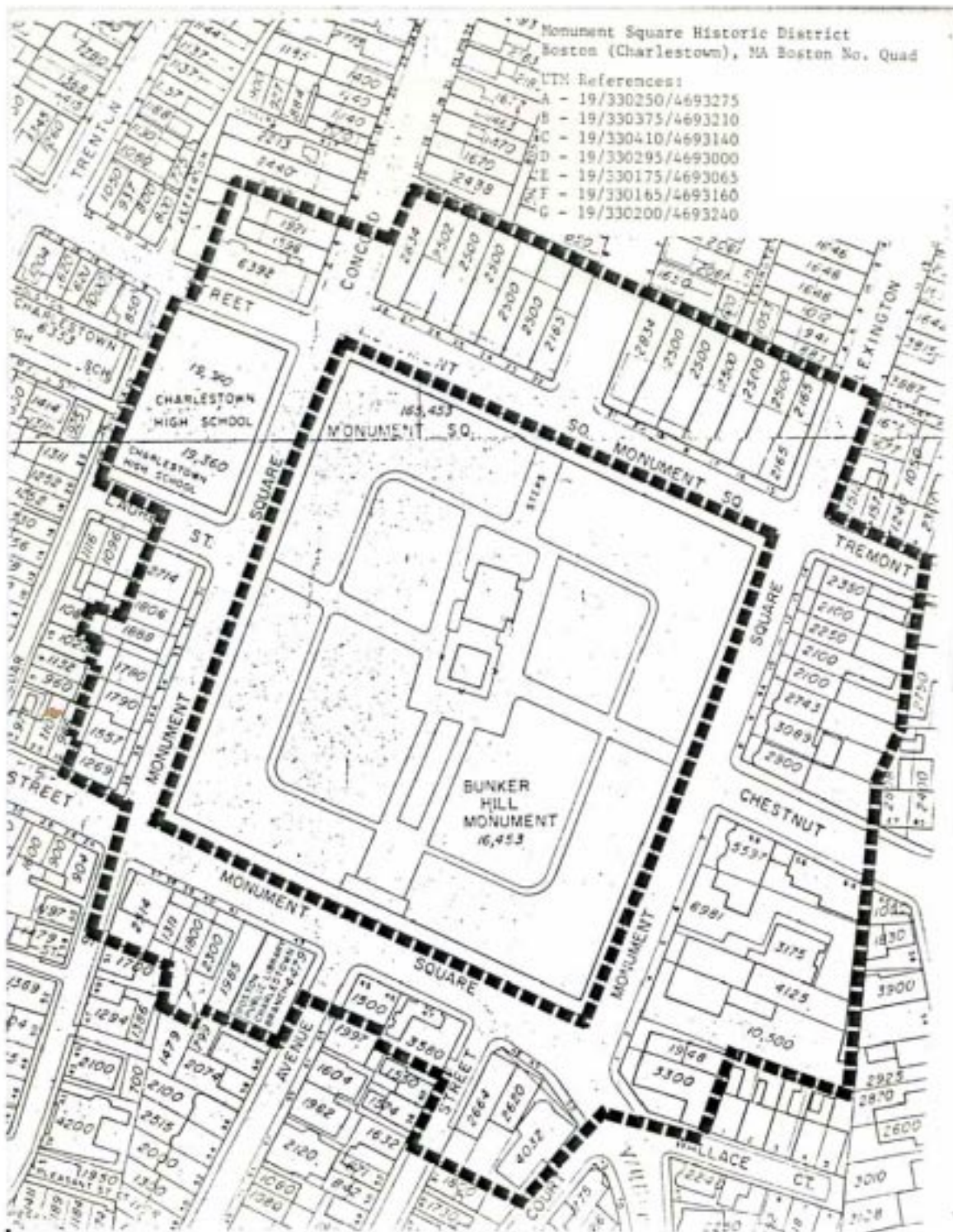
On September 20, 2001 the NPS held an Accessibility Charrette for the project. Attendees included representatives from the NPS, MHC, BLC, the Massachusetts Architectural Access Board and project design consultants (Goody, Clancy and Associates (architects and planners) and Carol Johnson Associates (landscape architects)). The intent of the charrette was to discuss the accessibility issues at the Bunker Hill site and the Museum. The charrette included presentations of the conceptual designs for accessibility to the Monument, the Lodge, the site and the Museum. The charrette concluded with various accessibility options for the design consultants to pursue in the development of architectural and landscape plans. At that time, all parties concurred that a new entrance on the south side of the Lodge, while it involved the removal of historical fabrics, was the preferred alternative because it impacted a less significant façade and allowed restoration of the original front (east) facade of the Lodge.

Copies of the above mentioned correspondence can be found in Appendix B.

This Environmental Assessment/Section 106 Case Report serves as the vehicle for the documentation of this compliance process.

5.3 Area of Potential Effect

The Section 106 regulations issued by the ACHP (36 CFR 800) require that review consider all impacts of a project within the area of potential effect. This area includes not only resources that are directly affected by proposed work, but adjacent historic properties as well. For the purposes of Section 106 review, the area of potential effect has been defined as the limits of the Bunker Hill Monument National Historic Landmark and the surrounding Monument Square National Register District (Figure 14).



NATIONAL PARK SERVICE

Figure 14
Bunker Hill Monument Rehabilitation
Area of Potential Effect- Bunker Hill
Monument National Historic Landmark
and Monument Square National
Register District



0 50 100 Feet

Bunker Hill Monument, designated a National Historic Landmark (NHL) in 1960, is nationally significant as the site of the first major battle of the American Revolution which, while a loss for the Colonial forces, demonstrated the resolve and commitment of those forces to the cause which ultimately resulted in American independence. The site is also nationally significant as a commemorative site, with a period of significance extending into the mid-20th century, recognizing the architectural significance of the Monument and Lodge and the formal planned nature of the grounds. The site is associated with major figures from both the Revolution and the commemorative periods, and possesses known and potential archeological resources relating to the battle.

The Monument Square Historic District, entered on the National Register in 1987, consists of 47 contributing properties (including the Bunker Hill Museum) surrounding the Bunker Hill Monument NHL. The District possesses national significance from its role ‘as the financial means by which the Bunker Hill battlefield was preserved and the Monument erected.’ It is of local significance for its architecture and role in community development.

The project will have a direct impact on the following cultural and historic resources which are listed as contributing features to the two National Register properties as well as the potential to disturb both known and unknown archeological resources:

- The Bunker Hill Monument;
- The Bunker Hill Lodge;
- The Bunker Hill Museum; and
- Monument Square Grounds.

This analysis concentrates on the potential effects of the preferred alternative.

5.4 Summary of Proposed Actions

The preferred alternative consists of repointing the Monument to eliminate water infiltration; cleaning the Monument; restoring natural ventilation to reduce condensation and improve visitor safety; and providing accessibility into the base of the Monument.

Work on the Lodge would include a new accessible entrance; rehabilitating a single restroom in the Lodge; and restoring the interior of the Lodge to its original purpose. The proposal includes converting an existing window into a doorway and removing the 1970s ramp to the front portico entry.

The Bunker Hill Museum requires rehabilitating the museum to meet ADA and state building codes, including new HVAC, new electrical system, new fire, security alarms, new sprinkler system, and new roof; restoring windows; constructing an accessible entrance; and adding an elevator to provide access to all floors. New fire egress, accessible restrooms, interior finishes, and exhibits would also be added.

Work on the Monument Square grounds would include improving site lighting, repairing or replacing sidewalks, and upgrading accessibility to the site in compliance with ADA.

Further details of the proposed work can be found in the description of Alternative B in section 2.3 of this document and in figures 8 through 12.

5.5 Archeological Resources

Archeological research at Bunker Hill has been conducted in conjunction with several previous projects at the site. The first of these began with monitoring of construction around the base of the Monument in 1980. The monitoring report (Mahlstedt 1981) noted the discoveries made during the rehabilitation of the site including the excavation, repair, and repointing of the obelisk foundation. The report documents the original construction of the granite platforms surrounding the obelisk and the existence of an extensive series of perimeter walls.

The next archeological investigation at the site occurred in March and April 1991 and involved the monitoring of a trench for the installation of new telephone cable (Schley 1991). The new telephone conduit ran from the southeast corner of the site (outside the cast iron fence) to the northeast corner of the site. At the northeast corner of the site, the trench ran to the west on the inside of the cast iron fence until it turned to the south and terminated on the site just before the sidewalk. Several features and interesting deposits were noted including a wooden telephone cable box at the northeast corner of the site.

The most extensive archeological investigations were conducted in 1996 (Pendery and Griswold 1996) after some preliminary test pits excavated during Section 106 compliance work for a proposed irrigation system yielded one fortification-like feature. Subsequent to this discovery, additional investigations were conducted in different parts of the site to locate and document the condition of the remains connected to the redoubts erected for the battle. These investigations involved the excavation of trenches in the four quadrants of the site to document the scientific value, integrity, condition, and National Register eligibility of archeological resources and threats to them.

The well-known Pelham map of the redoubts did not match well with the archeological discoveries. Some preliminary research done concerning the configuration of the redoubts shows multiple designs recorded in several historical sources. Archeological testing identified segments of large ditches on the west side of the Monument. These are potentially significant as they may represent the remains of the June 1775 redoubt and evidence for British activity in the aftermath of the battle. Ditch fill yielded nails, 18th-century pottery, one musket ball, and fragments of a slate gravestone. Testing on the east side of the Monument revealed park landscaping deposits resting on graded subsoil, and no evidence for the redoubt or battlefield surface. A spent musket ball was found in park fill in this area.

In an attempt to gain a better understanding of the location of the remaining redoubts on the site, non-destructive geophysical testing was undertaken in the fall of 2000. Both Ground-Penetrating Radar (GPR)

and Electromagnetic Induction (EM) were performed on the site to locate anomalies that may be connected with the June 1775 redoubts. The results of these investigations have located several anomalous areas for further research and seem to correspond with anomalies identified in a 1998 partial survey of the site using Resistivity¹.

The results from each of these studies will be brought to bear on assessing the impacts, or potential impacts, of the present project.

5.6 Summary of Potential Effects

Table 2 provides a summary of the types of potential effects of the proposed work on each of the major resources:

Table 2 Potential Effects of Proposed Project on Cultural Resources

Potential Effect	Monument	Lodge	Museum	Grounds
Repair/Replace Existing Underground Utilities				X
Remove Trees, Stumps, etc.				X
Disturb, Destroy, or Make Archeological Resources Inaccessible				X
Rehabilitate and Widen Existing Walks, Paths, and Sidewalks				X
Repair/Replace Fences				X
Repair/Replace in Kind Features of Historic Structures	X	X	X	
Install Fire Detection/Suppression Systems and Security Alarm Systems			X	
Upgrade HVAC Systems		X	X	
Erect Signs, Wayside Exhibits, and Memorial Plaques				X
Destroy, Remove, or Alter Features/Elements of a Historic Structure		X	X	
Add Non-historic Features/Elements to a Historic Structure		X	X	
Alter or Remove Features/Elements of a Cultural Landscape				X
Add Non-historic Features/Elements to a Cultural Landscape				X

¹ Resistivity is a non-invasive, subsurface technique using thermal radar practices to identify the presence of archeological remains.

The major effects of the project on the Monument would be the removal of deteriorated mortar and the possible removal of granite surfaces where cleaning is performed.

The major effects of the project on the Lodge would be the removal of a window and granite walls to create a new accessible entry door to the Lodge. There are no feasible alternatives that would meet the requirements of the ADA and avoid the creation of the new entrance. Within the Lodge, a current opening may be closed off to both restore the original configuration of the Lodge and to manage visitor flow.

The major effects of the project on the Museum would be removing the historic fabric to allow the installation of an elevator and code-compliant emergency egress; replacing the existing roof; and modifying interior spaces to facilitate circulation and provide proper spaces for the various elements of the building's program.

The major effects of the project on the grounds would be the removal of non-historic lighting fixtures and their replacement with new fixtures more appropriate to the period of significance; the removal and replacement of sidewalks; and the addition of site furniture such as benches and ADA compliant railings on the handicap access ramp. Some removal/pruning of existing trees may be required to implement proper night lighting of the Monument and Lodge.

5.7 Mitigation of Potential Effects

The Advisory Council's regulations (36 CFR 800.5) define adverse effects as any undertaking which may directly or indirectly alter characteristics of a historic property that qualify it for inclusion in the National Register. Reasonably foreseeable effects caused by the undertaking that may occur later in time, be further removed in distance, or be cumulative also need to be considered. Examples of adverse effects include physical destruction or damage; alteration, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicap access, not consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*; relocation of a property; change of use or physical feature's of a property's setting; visual, atmospheric or audible intrusions; neglect resulting in deterioration; or transfer, lease, or sale of a property out of Federal ownership or control without adequate protection. Alteration or destruction of an archeological site is an adverse effect, whether or not recovery of archeological data from the site is proposed. The regulations also state that if a property is restored, rehabilitated, repaired, maintained, stabilized, remediated, or otherwise changed in accordance with the *Secretary's Standards*, then it will not be considered an adverse effect.

In order to avoid adverse effects of the work on the character defining features of the Bunker Hill Monument, the Bunker Hill Lodge, and the Bunker Hill Museum, all work will be done in accordance with the *Secretary's Standards*. Wherever feasible, existing historic fabric will be repaired rather than replaced. The new entrance to the Lodge will be compatible with the historic materials, features, size,

scale and proportion, and massing to protect the integrity of the structure. Work on the Museum will require only minimal change to its distinctive materials, features, spaces, and spatial relationships.

Work on the Monument grounds, including removing and pruning trees, will be done in accordance with the recommendations of the CLR. New lighting will be compatible with the historic materials, size, and scale, and proportions will be consistent with similar fixtures from the period of significance.

In order to avoid impacts on known and unknown archeological resources, the project designers will work closely with the archeologists to locate subsurface work in areas of previous disturbance or of low archeological potential. Known archeological resources will be avoided to the maximum extent possible. Where site work such as installation of footings for new lighting and electrical utility lines is required in areas having archeological potential, spot testing to determine whether or not archeological resources are present will be conducted and appropriate design revisions made before construction. An archeologist will be on call during construction to investigate any archeological resources that might be uncovered.

5.8 Assessment of Effect

Applying the criteria of effect, the NPS has determined that the proposed work on the Bunker Hill Monument, the Bunker Hill Lodge, and the Bunker Hill Museum as outlined in the preferred alternative will have no adverse effect on the qualities for which either the Bunker Hill Monument or the Monument Square National Register District were listed on the National Register. In accordance with the recommended no adverse effect finding, the NPS will provide MHC with complete project construction and landscape design plans and specifications for review and approval, as they become available.

The NPS has determined that the proposed work on the Monument Square Grounds as outlined in the preferred alternative will have no adverse effect on the qualities for which the site is listed on the National Register. Since most of the work will be to structures and the majority of the site work will be in already disturbed areas of the site, there will be minimal disturbance to known and unknown archeological features. However, because of the possibility that the work may effect currently unknown archeological resources, the National Park Service is committed to the monitoring of all ground-disturbing work and the inclusion of appropriate controls in the construction documents that provide for the stopping of work upon the discovery of potential archeological resources and the institution of emergency consultation as provided under the Advisory Council regulations. The NPS will work closely with the State Archeologist in monitoring all ground-disturbing activities on the grounds.

6 Consultation & Coordination

6.1 Introduction

The National Environmental Policy Act requires federal agencies preparing environmental assessments to consult with stakeholders, including the general public and related agencies, early in the planning process to identify issues and concerns. This chapter documents this consultation held to date for rehabilitating Bunker Hill Monument. To ensure the proposed improvements' compliance with the requirements of regulatory agencies, a list of potentially necessary permits is included in this section, as well.

6.2 Brief History of Planning and Public Involvement

Pre-planning and schematic design were completed in Fall 2001. Throughout the planning process, NPS met with a committee that included representatives from the Charlestown Historical Society, Charlestown Preservation Society, and other community members. There were two public meetings: a scoping meeting to introduce the project and elicit feedback on issues and concerns (May 8, 2001); and a presentation of elements of the alternatives developed for the project (June 11, 2001). While there was little concern over the actual improvements to the site, potential impacts associated with increased numbers of tourists and the associated buses accessing the Bunker Hill Monument site was among the most significant project concerns expressed by the public. As discussed earlier, an evaluation done by the NPS at other historic sites within the Boston National Historical Park that have undergone major restoration or interpretive improvements over the last 20 years had indicated that these improvements of themselves did not substantially increase site visitation. As with the other sites, the proposed project is not expected to increase visitation to this BNHP site, and therefore there would not be an increased demand on parking as a result of this project. However, the potential for providing shuttle bus service to the Bunker Hill Monument site has previously been examined through a study done for the National Park Service. As proposed in the prior study, it was assumed that shuttle bus service would be initiated where tour buses and school buses would park and visitors transfer to a smaller shuttle bus. This service would also be available for other visitors wishing to use a shuttle to transfer from the Navy Yard. The National Park Service is working with the Boston Transportation Department to investigate the parking issues and transportation concerns that have arisen.

In addition to the public involvement, meetings with agencies including the Massachusetts Historic Commission and Boston Landmarks Commission have been ongoing as described in the previous sections.

As the planning process moves forward, public involvement will be provided through issuing this environmental assessment for a 30-day public review period and holding a public meeting during this review period.

6.3 Interagency Coordination

In completing this EA, the National Park Service has solicited comments from federal, state, and local agencies with interests in the project area, including:

- City of Boston
- Boston Landmarks Commission
- Massachusetts Historical Commission/Massachusetts State Historic Preservation Officer
- Massachusetts Architectural Access Board
- Massachusetts Department of Environmental Protection
- Massachusetts Department of Fisheries and Wildlife
- Massachusetts Commission on Indian Affairs
- U.S. Army Corps of Engineers
- U.S. Fish & Wildlife Service

Please see Appendix B for copies of correspondence with agencies.

6.4 List of Recipients

This environmental assessment will be placed on formal public review for 30 days and will be distributed to a variety of interested individuals, agencies and organizations, including those listed under “Consultation & Coordination.” This EA will be available on the Internet at <http://www.nps.gov/BOST/management.htm>.

Federal Agencies

Advisory Council on Historic Preservation
Department of Interior
US Fish & Wildlife Service
National Park Service
American Battlefield Protection Program
Boston National Historical Park
Boston Support Office

State and Local Agencies

Massachusetts Historical Commission/Massachusetts State Historic Preservation Officer

City of Boston:

- Boston Landmarks Commission
- Boston Redevelopment Authority
- Boston Public Health Commission
- Parks Department
- Boston Transportation Department
- Department of Neighborhood Development
- Boston Public Library, Charlestown Branch

Community Organizations and Consulting Partners

- Bunker Hill Monument Association
- Bunker Hill Neighborhood Association
- Charlestown Historical Society
- Charlestown Neighborhood Council
- Charlestown Preservation Society

References

Acronyms

ABA – Architectural Barriers Act
ACHP- Advisory Council on Historic Preservation
ADA – Americans with Disabilities Act

BHM- Bunker Hill Monument
BLC – Boston Landmarks Commission

CEQ – Council on Environmental Quality
CLR - Cultural Landscape Report
CNY- Charlestown Navy Yard

EA – Environmental Assessment
ESA – Endangered Species Act

GMP – General Management Plan

MDEP – Massachusetts Department of Environmental Protection
MDFW – Massachusetts Department of Fish and Wildlife
MHC – Massachusetts Historical Commission
MSPO – Massachusetts State Planning Office

NEPA – National Environmental Policy Act
NHPA – National Historic Preservation Act of 1966, as amended
NHL – National Historic Landmark
NPS – National Park Service

SHPO – State Historic Preservation Officer

USDA- U.S. Department of Agriculture
USFWS – U.S. Fish & Wildlife Service

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List of Preparers

This document was prepared by Vanasse Hangen Brustlin, Inc. and Boston National Historical Park with design and technical assistance from Goody Clancy and Associates, Inc.

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Nancy Barker, PWS	Environmental Services Manager	18 years experience	Guidance of the NEPA process and project management.

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Appendix A

Regulations, Laws, and Guidelines

Table A-1: Regulation Matrix

Federal Mandates	Reference	Purpose
Administrative Procedures Act of 1979, as amended	5 U.S.C. 551, et seq.	Outlines the forms of administrative proceedings (hearings, adjudication, etc.) and prescribes procedural and substantive limitations thereon. Provides for judicial review of federal decision making actions.
Antiquities Act of 1906, as amended	16 U.S.C. 431-433	Authorized the President "to declare by public proclamation (as national monuments) historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest".
Archaeological and Historic Preservation Act of 1974, as amended	16 U.S.C. 469-469c	Requires survey, recovery and preservation of significant scientific, prehistorical, historical, archaeological or paleontological data when such data may be destroyed due to a federal project. Directs federal agencies to notify the Secretary of the Interior whenever they find that such a project may cause loss or damage.
Archaeological Resources Protection Act of 1979, as amended	16 U.S.C. 470aa-mm	Strengthens and expands the protective provisions of the Antiquities Act of 1906 with respect to archaeological resources. Replaces the Antiquities Act's permitting procedures for archaeological research.
Architectural Barriers Act of 1969; Rehabilitation Act of 1973; Americans with Disabilities Act of 1990	42 U.S.C. 4151, et seq.; 29 U.S.C. 701, et seq.; P.L. 101-336, 104 Stat. 327	Provides access to all public places for persons with disabilities and ensures that all facilities and programs are accessible to visitors with disabilities.
Bald and Golden Eagle Protection Act	16 U.S.C. 668-668d	Establishes that activities to import, export, or take bald or golden eagles, or to sell, purchase, or barter their parts, or products made from them, including their nests or eggs, are illegal.
Boston National Historical Park Act of 1974	16 USC 410z	Authorized the establishment of Boston National Historical Park to preserve for the benefit and inspiration of the people of the United States as a national historical park certain historic structures and properties of outstanding national significance located in Boston, Massachusetts, and associated with the American Revolution and the founding and growth of the United States.
Clean Air Act Amendments of 1990, as amended; Sec. 118	42 U.S.C. 7401, et seq. 42 U.S.C. 7609	Establishes standards to protect and improve air quality and delegates authority for air quality to the states. Requires project conformity with State Implementation Plan concerning air quality. Sec. 118 requires federal land managers to protect air quality on federal land.
Clean Water Act of 1977, as amended, Sec. 401, 402 and 404(b)(1)	33 U.S.C. 1251, et seq.	Protects the state's water resources.
Coastal Zone Management Act of 1972	PI 92-583, 86 STAT 1280, 16 USC 1451 et seq., as amended	States national policy to preserve, protect, develop and restore or enhance resources of the nation's coastal zones. Requires federal agencies to comply with applicable, approved state coastal zone management programs.
Council on Environmental Quality Regulation, as amended	40 CFR 1500-1508	Implements NEPA and provides guidance to federal agencies in the preparation of environmental documents identified under NEPA.
Endangered Species Act of 1973, as amended	16 U.S.C. 1531-1543	Establishes a policy to protect and restore federally listed threatened and endangered species of flora and fauna.
Farmland Protection Policy Act of 1980 and 1995	P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, et seq.; 7 CFR Part 658	Minimizes the extent to which federal programs contribute to the unnecessary conversion of farmland to non-agricultural uses. Also stipulates that federal programs be compatible with state local and private efforts to protect farmland and that federal agencies coordinate with the Dept. of Agriculture's Natural Resources Conservation Service whenever prime and unique farmlands are involved in federal actions that will affect such resources.

Table A-1: Regulation Matrix (Cont'd.)

Federal Mandates	Reference	Purpose
Federal Advisory Committee Act	5 USC (Appendix)	Creates a formal process for federal agencies to seek advice and assistance from citizens. Any council, panel, conference, task force, or similar group used by federal officials to obtain consensus advice or recommendations on issues or policies falls under the purview of this Act.
Federal Water Pollution Control Act of 1972, as amended	33 U.S.C. 1251-1376, et seq.	Establishes criteria and performance standards for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters through prevention, reduction and elimination of pollution.
Fish and Wildlife Coordination Act of 1934, as amended	16 U.S.C. 661-666	Requires early coordination with the U.S. Fish & Wildlife Service whenever water resources are involved.
National Park System General Authorities Act of 1970	16 U.S.C. 1	Affirmed that all national park areas, including historic sites, while acknowledged to be "distinct in character," were "united through their interrelated purposes and resources into one national park system, as cumulative expressions of a single national heritage.
Historic Sites, Buildings and Antiquities Act of 1935, as amended	16 U.S.C. 461-467	Declares a national policy to preserve historic sites and objects of national significance for public use. Establishes an Advisory Board.
National Environmental Policy Act of 1969	42 U.S.C. 4321-4347	Requires all federal agencies to analyze alternatives and to document impacts resulting from proposed actions that could potentially affect the natural and human environment.
National Historic Preservation Act of 1966, as amended; Sec. 106 and 110	16 U.S.C. 470 36 CFR 800	To protect and preserve districts, sites and structures and architectural, archaeological and cultural resources. Sec. 106 requires consultation with the State Historic Preservation Office. Sec. 110 requires that NPS identify and nominate all eligible resources under its jurisdiction to the National Register of Historic Places
National Park Service Organic Act of 1916	16 U.S.C. 1-4, et seq.	To promote and regulate the use of national parks, monuments and reservations by such means and measures as to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the land in such manner as will leave them unimpaired for the enjoyment of future generations.
National Parks and Recreation Act of 1978	P.L. 95-625	Requires the identification of and implementation commitments for visitor carrying capacity for all areas of national park units; measures for the preservation of an area's resources; indication of types and general intensities of development (including visitor circulation and transportation patterns, systems and modes) associated with public enjoyment and use of the area, including general locations, timing of implementation, and anticipated costs; and indications of potential modifications to the external boundaries of the unit, and the reasons therefore.
Native American Graves Protection and Repatriation Act of 1990	P.L. 101-601; 104 Stat. 3049	Assigns ownership of control of American Indian human remains, funerary and sacred objects and objects of cultural patrimony that are discovered on federal lands or tribal lands to lineal descendants of affiliated Indian tribes or Native Hawaiian organizations; establishes criminal penalties for trafficking in human remains or cultural objects; and requires federal agencies and museums that receive federal funding to inventory American Indian human remains and related funerary objects in their control and identify their cultural and geographic affiliations within five years and prepare summaries of information about other American Indian Cultural resources.

Table A-1: Regulation Matrix (Cont'd.)

Federal Mandates	Reference	Purpose
National Park Omnibus Management Act of 1998	16 U.S.C. 5901 et seq.	States that the Secretary of the Interior shall take such measures as are necessary to assure the full and proper utilization of the results of scientific study for park management decisions.
Occupational Safety and Health Act of 1970	PL 91-596, 84 Stat 1590, 5 USC 5108	Establishes national safety and health standards for worker environments and establishes the Occupational Safety and Health Administration (OSHA)
Rivers and Harbors Act of 1899		Establishes Army Corps of Engineers' regulatory authority over U.S. navigable waters. Establishes permit requirements for construction of bridges, causeways, dams, or dikes within or over navigable waters of the U.S. Bridge and causeway construction is regulated by the Transportation Secretary, while dam and dike permits are reviewed by the Corps. Sec. 10 requires a Corps permit for construction of any "obstruction of navigable waters" of the U.S., and for any excavation, fill, or other modification to various types of navigable waters. Sec. 13 requires a Corps permit for discharge of refuse of any kind (except liquid from sewers or urban runoff) from land or vessel, into the navigable waters of the U.S. or into their tributaries. Similarly, discharge of refuse is prohibited upon the banks of navigable waters of their tributaries where the refuse could be washed into the water.
Water Resources Planning Act of 1965 and Water Resource Council's Principles and Standards		States a national policy "to encourage the conservation, development, and utilization of water and related land resources on a comprehensive and coordinated basis by the federal government, states, localities, and private enterprises with the cooperation of all affected federal agencies, states, local governments, individuals, corporations, business enterprises, and others concerned". Establishes the Water Resources Council with responsibility for assessing the adequacy of water supplies, studying the administration of water resources, and developing principles, standards, and procedures for federal participants in the preparation of comprehensive regional or river basin plans. Establishes the framework for state and federal cooperation through a series of river basin commissions.
U.S. Department of Transportation Act of 1966, Sec. 4(f)	49 U.S.C. 303, Subtitle I	Preserves publicly owned parkland, waterfowl and wildlife refuges and significant historic sites. Requires the Secretary of Transportation to consider all prudent and feasible alternatives to impacting such lands.
Federal Executive Orders	Reference	Purpose
Analysis of Impacts on Prime and Unique Agricultural Lands in Implementing NEPA	45 CFR 59189	Requires federal agencies to analyze the impacts of federal actions on agricultural lands in accordance with NEPA.
Federal Compliance with Pollution Control Standards	Executive Order 12088	Establishes procedures and responsibilities to ensure that all necessary actions are taken to prevent, control, and abate environmental pollution with respect to federal facilities.
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	Executive Order 12898	Directs federal agencies to avoid federal actions that cause disproportionately high and adverse impacts on minority and low-income populations with respect to human health and environment.

Table A-1: Regulation Matrix (Cont'd.)

Federal Executive Orders	Reference	Purpose
Indian Sacred Sites	Executive Order 13007	Directs federal agencies to avoid potential impacts to Native American sacred sites and to avoid potential land use conflicts with local or state interests or interests of Native American tribes. Also must avoid impacts to Indian Trust Resources.
Intergovernmental Review of Federal Programs	Executive Order 12372	Establishes clearinghouse coordination required with state and local agencies concerning impacts of federal projects.
Invasive Species	Executive Order 13112	Directs federal agencies to prevent the introduction of invasive species and provide for their control and establishes the Invasive Species Council
Protection and Enhancement of Cultural Environment	Executive Order 11593	Directs federal agencies to protect and enhance the cultural environment.
Protection and Enhancement of Environmental Quality	Executive Order 11514, as amended by E.O. 11991	Provides federal government leadership in protecting and enhancing the quality of the nation's environment to sustain and enrich human life.
Protection of Wetlands	Executive Order 11990	Requires federal agencies to consider all practicable alternatives to impacting wetlands.
NPS Director's Orders	Reference	Purpose
Cultural Resource Management Guidelines	Director's Order 28	Describes NPS policy in regard to the preservation and treatment of archaeological, cultural and historic properties and ethnographic resources included within a park.
Interpreting the National Park Service Organic Act	Director's Order 55	Interprets NPS policy regarding the National Park Service Organic Act and the National Park Service General Authorities Act as stating the laws prohibit the impairment of park resources and values.
National Environmental Policy Act Guidelines	Director's Order 12	Provides bureau guidance on NEPA compliance consistent with CEQ regulations and on approaches to environmental documentation.
Natural Resources Management Guidelines	Director's Order 77	Provides bureau guidance on addressing and managing natural resources within park boundaries.
Park Planning	Director's Order 2	Directs the decision making processes that result in the goals and actions specific to each unit of the national park system and those units of the national trails system administered by NPS.
Wetland Protection	Director's Order 77-1	Directs NPS to avoid adverse impacts to wetlands if undertaking new development or land use activities and provides guidelines to meet requirements of Executive Order 11990, Protection of Wetlands.

Table A-1: Regulation Matrix (Cont'd.)

Massachusetts Statutes	Reference	Purpose
Asbestos Abatement and Disposal	Massachusetts General Laws, Executive Office of Environmental Affairs, 301CMR 7.15 and 1900	This law requires basic controls including monitoring, inspecting and investigating all work, including construction, demolition, alteration or repair, involving any building or structure, or any of its political subdivisions or authorities, where such work involves the use or handling of asbestos or material containing asbestos, including the disposal of materials containing asbestos.
Historic Preservation	MGL c. 9, section 26-27c	Massachusetts Historical Commission advises the actions on matters relating to the historical and archeological assets of the commonwealth and compiles and maintains an inventory of such assets. The commission shall encourage all governmental bodies and persons considering action which may affect a historical or archeological asset of the commonwealth to consult with the commission to avoid any adverse effect to such asset.
Neighborhood Design Overlay District	Massachusetts General Laws, chapter 121B, section 4 and Chapter 652, section 12.	The Boston Redevelopment Authority (BRA) is a regional land use planning and regulatory agency that reviews projects that impact Boston and the surrounding towns, including water quality, traffic flow, historic values, affordable housing, open space, natural resources, and economic development. The Charlestown Neighborhood Council is a local agency that follows the review of such a project as proposed through the BRA process.
Sewer Connections	MGL c. 21, s.43	Department of Environmental Protection regulates any new or increased discharges of pollutants, to adopt procedures that will assist in identifying the source and nature of any new source of discharges to the works and any significant change in such flow and to safeguard against excessive loading of the collection and treatment system.

Appendix B

Correspondence



May 7, 2002

Vanasse Hangen Brustlin, Inc.

Ref: 07529

Mr. Paul Nickerson, Chief
U.S. Fish and Wildlife Service
Division of Threatened and Endangered Species
300 Westgate Center Drive
Hadley, MA 01035

Re: Bunker Hill Monument Park Rehabilitation
Interagency Consultation

Dear Mr. Nickerson;

Vanasse Hangen Brustlin, Inc. has been retained by the National Park Service to assist the Boston Historical National Park staff in completing an *Environmental Assessment* for the proposed rehabilitation of Bunker Hill Monument Park in Boston Historical National Park, Massachusetts. The site location is depicted on the attached figure. Work proposed within Bunker Hill Monument (BHM) includes rehabilitation of historic properties; interpretive signage on the BHM; rehabilitation of the museum building to serve as a new, handicapped accessible Visitor Center with improved interpretive services; improvement of visitor access and circulation; and traffic management at the historic site. The rehabilitation of these sites will enhance the visitor experience at Bunker Hill Monument.

The purpose of this letter is to request identification of essential habitat in the vicinity of the site and invite any additional comments or consultation that the Department finds appropriate at this time.

The National Park Service is examining the potential environmental impacts of these actions to fulfill its responsibilities under the National Environmental Policy Act. We would appreciate any consultation or comments your office may have in regard to threatened, endangered or special concern species.

If you have any questions regarding this project, please feel free to call me at (617) 924-1770 ext. 1818.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Jill Cohen
Planner



May 7, 2002

Vanasse Hangen Brustlin, Inc.

Ref: 07529

Ms. Helen Waldorf, Deputy Director of Compliance/Enforcement
Massachusetts DEP
One Winter Street, 2nd Floor
Boston, MA 02108

Re: Bunker Hill Monument Park Rehabilitation
Interagency Consultation

Dear Ms. Waldorf;

Vanasse Hangen Brustlin, Inc. has been retained by the National Park Service to assist the Boston Historical National Park in completing an *Environmental Assessment* for the proposed rehabilitation of Bunker Hill Monument Park in Boston Historical National Park, Massachusetts. The site location is depicted on the attached figure. Work proposed within Bunker Hill Monument includes rehabilitation of historic properties; interpretive signage on the Bunker Hill Monument; rehabilitation of the museum building to serve as a new, handicapped accessible Visitor Center with improved interpretive services; improvement of visitor access and circulation; and traffic management at the historic site. The rehabilitation of these sites will enhance the visitor experience at Bunker Hill Monument.

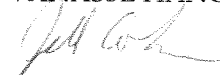
The purpose of this letter is to request any additional comments or consultation you may feel is appropriate at this time.

The NPS is preparing an *Environmental Assessment* to comply with the requirements of the National Environmental Policy Act, specifically Section 102, the Council on Environmental Quality Regulations. The NPS will provide the DEP with a copy of this EA as soon as it is released for public review and will accept written comments for 30 days following this release.

If you have any questions regarding this project, please feel free to call me at (617) 924-1770 ext. 1818.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.


Jill Cohen

Planner



May 7, 2002

Vanasse Hangen Brustlin, Inc.

Ref: 07529

Mr. William Galvin, Secretary
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

Re: Bunker Hill Monument Park Rehabilitation
Interagency Consultation

Dear Mr. Galvin;

Vanasse Hangen Brustlin, Inc. has been retained by the National Park Service to assist the Boston Historical National Park in completing an *Environmental Assessment* for the proposed rehabilitation of Bunker Hill Monument Park, Boston Historical National Park, Massachusetts. The site location is depicted on the attached figure.

The work being considered at this time includes:

1. Rehabilitation of historic properties,
2. Rehabilitation of interpretive signage on the Bunker Hill Monument,
3. Rehabilitation of the museum building to serve as a new, handicapped accessible Visitor Center with improved interpretive services,
4. Improvement of visitor access and circulation, and
5. Traffic management at the historic site.

The purpose of this letter is to request any additional comments or consultation you may feel is appropriate at this time.

The National Park Service is examining the potential environmental impacts of these actions to fulfill its responsibilities under the National Environmental Policy Act. If you have any questions regarding this project, please feel free to call me at (617) 924-1770 ext. 1818.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Jill Cohen
Planner



May 7, 2002

Vanasse Hangen Brustlin, Inc.

Ref: 07529

Mr. Tom Skinner, Director
Office of Coastal Zone Management
251 Causeway Street, Suite 900
Boston, MA 02114

Re: Bunker Hill Monument Park Rehabilitation
Interagency Consultation

Dear Mr. Skinner;

Vanasse Hangen Brustlin, Inc. has been retained by the National Park Service to assist the Boston Historical National Park staff in completing an *Environmental Assessment* for the proposed rehabilitation of Bunker Hill Monument Park, Boston Historical National Park, Massachusetts. The site location is depicted on the attached figure.

The work being considered at this time includes:

1. Rehabilitation of historic properties,
2. Rehabilitation of interpretive signage on the Bunker Hill Monument,
3. Rehabilitation of the museum building to serve as a new, handicapped accessible Visitor Center with improved interpretive services,
4. Improvement of visitor access and circulation, and
5. Traffic management at the historic site.

The National Park Service is examining the potential environmental impacts of these actions to fulfill its responsibilities under the National Environmental Policy Act. We would appreciate any consultation or comments your office may have in regard to threatened, endangered or special concern species. If you have any questions regarding this project, please feel free to call me at (617) 924-1770 ext. 1818.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.


Jill Cohen
Planner



July 10, 2002

Vanasse Hangen Brustlin, Inc.

Ref: 07529

Mr. Jim Peters, Executive Director
Massachusetts Commission on Indian Affairs
One Congress Street
Boston, MA 02114

Re: Bunker Hill Monument Park Rehabilitation
Interagency Consultation

Dear Mr. Peters;

Vanasse Hangen Brustlin, Inc. has been retained by the National Park Service to assist the Boston National Historical Park in completing an *Environmental Assessment* for the proposed rehabilitation of Bunker Hill Monument Park in Boston, Massachusetts. The site location is depicted on the attached figure. Work proposed within Bunker Hill Monument includes rehabilitation of historic properties; interpretive signage at the Bunker Hill Monument and Lodge; rehabilitation of the community-owned Museum building across the street to serve as a new, handicapped accessible Interpretive Center with improved interpretive services; and improvement of visitor access and circulation at the historic site. The rehabilitation of these sites will enhance the visitor experience at Bunker Hill Monument.

As noted in our phone conversation earlier today, you stated that you are not aware of any state recognized tribes in this area that might have concerns. The purpose of this letter is to request any additional comments or consultation you may feel is appropriate at this time.

The NPS is preparing an *Environmental Assessment* to comply with the requirements of the National Environmental Policy Act, specifically Section 102, the Council on Environmental Quality Regulations. The NPS will provide the Commission on Indian Affairs with a copy of this EA as soon as it is released for public review and will accept written comments for 30 days following this release.

If you have any questions regarding this project, please feel free to call me at (617) 924-1770 ext. 1818.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.


Jill Cohen
Planner



Vanasse Hangen Brustlin, Inc.

101 Walnut Street
P.O. Box 9151
Watertown, MA 02471- 9151
617 924 1770
FAX 617 924 2286

**Phone
Notes**

Person Contacted: Amy Goodwin

VHB Rep: Jill Cohen

Title: Planner

VHB Project No.: 07529

Company: BRA

Project Name: Bunker Hill Monument EA

Telephone No.: 617.918.4371

Type Of Call: Incoming

FAX No.

Date and Time: July 18, 2002

Ms. Amy Goodwin of the Planning and Zoning Department of the BRA noted that there could probably be two main issues:

1. zoning in that area is regulated by the Charlestown Neighborhood Design Overlay District. Any changes to the façade of the buildings or any major construction/deconstruction would trigger a permit and need for a variance from the Board of Appeals. Ms. Goodwin noted that the Boston Inspectional Services Department (ISD) should be contacted (617.635.5300) to determine what the process would be. There may be a stipulation that excludes work done to improve handicap accessibility.
2. Boston Landmarks Commission could have concerns but I told her we were already engaged in discussions with them through the 106 process.

Ms. Goodwin did not feel that there would be any issues with the BRA specifically, but they would be involved if the Board of Appeals process was invoked. She also wasn't sure that since a Federal agency was involved, that the actions proposed would preempt the city and neighborhood issues.



Vanasse Hangen Brustlin, Inc.

101 Walnut Street
P.O. Box 9151
Watertown, MA 02471- 9151
617 924 1770
FAX 617 924 2286

**Phone
Notes**

Person Contacted: John MacAuley

VHB Rep: Jill Cohen

Title: Environmental Analyst

VHB Project No.: 07529

Company: DEP

Project Name: Bunker Hill Monument
Rehabilitation

Telephone No.: 978.661.7633

Type Of Call: Incoming

FAX No.

Date and Time: July 29, 2002

Mr. MacAuley noted that there would be a notification for abatement for asbestos and for demolition/renovation that would be required. Each of these can be obtained on line (ANF 001 and BWP) and require 10 working days from date of receipt by DEP.

Mr. MacAuley also stated that if using chemical cleaning for the Monument, this would most likely require water quality controls to be in place and possibly a NPDES exclusion to be granted. This could warrant a hazardous waste cleanup, depending on the treatment used.



United States Department of the Interior

NATIONAL PARK SERVICE
Boston National Historical Park
Charlestown Navy Yard
Boston, MA 02129-4543

IN REPLY REFER TO:

July 23, 2001
H4217 (BOST-PS)
BOST01-009

Cara Metz, Executive Director
Massachusetts Historical Commission
State Archives Building
220 Morrissey Boulevard
Boston, Massachusetts 02125

Dear Ms. Metz:

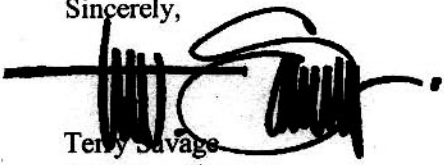
Enclosed is a copy of the recently-completed *Bunker Hill Monument Cultural Landscape Report* prepared by Patricia Quintero Brouillette and Margaret Coffin Brown of the Olmsted Center for Landscape Preservation. This report has been prepared to document the historical development and existing conditions of the Bunker Hill Monument site and to assist in the establishment of treatment for the site for the forthcoming rehabilitation project.

Your attention is particularly drawn to chapter III of the report, Analysis of Significance and Integrity, which recommends that the period of significance for the site be extended to 1947. We concur with this recommendation, and in accordance with Section 110 of the National Historic Preservation Act, as amended, seek your opinion on this matter.

The park has begun the process of preparing an Environmental Assessment (EA) for the proposed rehabilitation project at Bunker Hill. Preparation of an EA is required to meet the requirements of the National Environmental Policy Act. In addition, the process and documentation required for the preparation of an EA will be used to comply with Section 106 of the National Historic Preservation Act. In accordance with Section 800.8c of the Advisory Council on Historic Preservation's regulations (30 CFR Part 800), I am notifying your office in advance of the park's intention to use the EA to meet its obligations under Section 106.

Should you have any questions, please contact either Stephen Carlson (617 242-5680) or Ruth Raphael. (617 242-5691) of my staff.

Sincerely,



Terry Savage
Superintendent

Enclosure



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE
Boston National Historical Park
Charlestown Navy Yard
Boston, MA 02129-4543

August 15, 2001
H4217 (BOST-PS)
BOST01-009

Ellen Lipsey, Executive Director
Boston Landmarks Commission
Room 805, City Hall
Boston, Massachusetts 02201

Dear Ms. Lipsey:


The National Park Service is in the process of planning for a comprehensive rehabilitation of the Bunker Hill Monument. Among the key elements of this project are the rehabilitation of the Monument and the adjoining Lodge; improvements to the grounds, including replacement of the current lighting with more appropriate fixtures; improved accessibility to the grounds and the base of the Monument; and the rehabilitation of the adjoining Bunker Hill Museum (the former Charlestown Public Library) into the major interpretive center for the site.

Enclosed is a copy of the recently-completed *Bunker Hill Monument Cultural Landscape Report* prepared by Patricia Quintero Brouillette and Margaret Coffin Brown of the Olmsted Center for Landscape Preservation. This report has been prepared to document the historical development and existing conditions of the Bunker Hill Monument site and to assist in the establishment of treatment for the site for the forthcoming rehabilitation project.

The park has begun the process of preparing an Environmental Assessment (EA) for the proposed rehabilitation project at Bunker Hill. Preparation of an EA is required to meet the requirements of the National Environmental Policy Act. In addition, the process and documentation required for the preparation of an EA will be used to comply with Section 106 of the National Historic Preservation Act. To that end, we have begun consultations with the State Historic Preservation Officer on this project and would like to invite you to participate in these consultations.

We would like to meet with you in the near future to discuss the project. Please contact either Stephen Carlson (617 242-5680) or Ruth Raphael. (617 242-5691) of my staff to set up a mutually acceptable date for such a meeting.

Sincerely,



Terry Savage
Superintendent

Enclosure

Bunker Hill Rehabilitation
106 Consultation with Massachusetts State Historic Preservation Officer
August 8, 2001

In attendance:

Peter Steele, Deputy Superintendent, Boston National Historical Park

Ruth Raphael, Planner, Boston National Historical Park

Steve Carlson, Preservation Specialist, Boston National Historical Park

Bill Barlow, Historical Architect, Boston National Historical Park

Deborah Robinson, Architect, Goody Clancy & Associates

Brona Simon, Deputy State Historic Preservation Officer/State Archeologist

Ann Lattinville, Director of Architectural Review, Massachusetts Historical Commission

Ed Bell, Archaeologist, Massachusetts Historical Commission

Ruth Raphael started the meeting with an overview of the project. Deborah Robinson reviewed the scope of work for the monument and lodge including: addressing the water infiltration into the monument; cleaning the graffiti (and subsequent cleaning of the monument to minimize disparity of appearance in cleaned vs. non-cleaned surfaces); resetting granite slabs as needed to address standing water in foundation; handrail and brackets; accessibility into the lodge and base of monument; restrooms in the lodge; restoration of the front of the lodge (removal of current ramp); and restoration of interior to contemplative space. Peter Steele added that a major emphasis of the funding request for this project was to address the water infiltration problem in the monument. Ruth Raphael added that the other major emphasis was on providing improved interpretation of the site (battle, monument and commemoration).

Peter Steele asked MHC if they have had any experience with cleaning of monuments, historic structures, etc. Ann Lattinville said that the MDC is working with McGinley Hart on the Salt & Pepper Bridge and have looked at chemical cleaning and cleaning with small glass beads at a low psi (the ? method).

Comments from SHPO: Boston Landmarks Commission should also be part of consultation (Michael Cannizzo). Will there still be some interpretation in the lodge for visitors waiting to go into the monument (yes, minimal, probably movable interpretive elements; could be a place to showcase Warren, but this is all subject to interpretive development). What will the extent of accessibility be into the monument (just inside base, accessibility to rest of monument will be programmatic). Will ventilation of the monument be mechanical (most likely not but this will be part of investigation of problem in design development).

Archeology: probably greatest impact to archaeology will be installation of new light fixtures. The approach will be to work with archeologists to determine known areas to avoid and to work with existing locations. Since there will most likely be more light fixtures than currently exist, new locations will be determined and test pits will be dug at these locations. The SHPO had suggested that removal of existing pavement would be a good opportunity to perform further archeological investigation. Would have to be

carefully written into specifications to avoid any construction delays. Once old pavement is removed, testing can be done through hand digging below existing setting bed. Since pavement is being replaced in same location, specifications would require that new pavement and setting bed would not exceed existing depth. Any archeological resources discovered could be mapped but work would not have to be delayed as new construction would not go into undisturbed area. This issue needs further consultation with Steve Pendery, NPS Archeologist to design methodology. Further work needed to superimpose results of earlier archeological investigation upon recent ground penetrating radar survey results and to digitize historic maps in order to compare to earlier survey work.

Next steps:

- Need to schedule charrette for accessibility—involve staff, SHPO, Steve Spinetto (City of Boston) and Deb Ryan (Massachusetts Architectural Access Board) as well as NPS staff to look for best solutions to accessibility.
- Set up meeting with Steve Pendery and SHPO to discuss affected resources based on completion of analysis of GPR, superimposing results of earlier survey work on GPR, digitization of historic maps.
- Set up meeting with Boston Landmarks Commission (Steve Carlson).



The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

August 24, 2001

Terry Savage, Superintendent
Boston National Historical Park
National Park Service
Charlestown Navy Yard
Boston, MA 02129-4543

RE: Bunker Hill Monument Cultural Landscape Report, Boston, MA; MHC# 17731

Dear Mr. Savage:

Staff of the Massachusetts Historical Commission have reviewed the Cultural Landscape Report for the Bunker Hill Monument and site. Additionally, the MHC received information regarding the report and current planning efforts during meetings held on July 26 and August 8, 2001. After a review of the information submitted, MHC staff have the following comments.

The MHC concurs that the period of significance should be extended to 1947, the date which marks the completion of a major site alterations. The extension of the period of significance would take into account early 20th century changes that have acquired importance in the passing of time and would recognize the Monument in the context of the evolution history of the Metropolitan District Commission (MDC) parks. The Bunker Hill Monument site was the second historic site acquisition made by the MDC.

The MHC looks forward to continued consultation regarding the proposed projects at the Bunker Hill Monument site. The MHC understands that a meeting to discuss accessibility issues and solutions at the Lodge is being organized and that MHC staff will participate in this meeting. As discussed at the August 8th meeting, investigative work and project planning is now occurring for the Monument restoration component of the project. Specifically, investigative work is being conducted to determine appropriate treatment solutions to condensation and freeze/thaw cycles that continue to cause damage to the Monument. MHC understands that the NPS anticipates that a ventilation solution will need to be devised to protect the fabric of the monument. Additionally, cleaning and repointing options are currently being explored. MHC staff recommend that the NPS investigate some of the newer "abrasive" micro-particle cleaning systems (e.g., JOS System) be explored along with chemical cleaning in order to determine which method may cause the least amount of damage and "over-cleaning" of the Monument. The MHC looks forward to receiving additional information concerning the rehabilitation efforts for the Monument and the Lodge as well as the landscape restoration, lighting, and site improvements projects that may affect the historic architectural, and the architectural and archaeological landscape features of the park.

With regard to the proposed former Charlestown Library building, the MHC looks forward to receiving and reviewing a complete project scope along with proposed plans and specifications as they are developed.

MHC staff are reviewing the report on the results of the previous archaeological monitoring activities at the property, which was received by the MHC on August 13, 2001. MHC looks forward to receiving a copy of the other archaeological and remote sensing reports. MHC looks forward to meeting with NPS archaeologists to discuss archaeological sensitivity, planning, and research methodology.

These comments are offered to assist in compliance with Section 106 and 110 of the National Historic Preservation Act of 1966, as amended (36 CFR 800) and M.G.L. Chapter 9, Section 26-27C, as amended

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128
www.state.ma.us/sec/mhc

by Chapter 254 of the Acts of 1988 (950 CMR 71.00). Please do not hesitate to contact Ann Lattinville or Edward L. Bell of my staff if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Brona Simon".

Brona Simon
Deputy State Historic Preservation Officer
State Archaeologist
Massachusetts Historical Commission

xc:

Steve Carlson, Boston NHP
Ellen Lipsey, Boston Landmarks Commission
Steven Pendery, NPS



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

December 2002

United States Department of the Interior- National Park Service